Some Factors Affecting Teacher Supply and Demand in Missouri

by

WILLIAM HENRY ZEIGEL, JR., B.S. in Ed., A.M.

The Abstract of a Thesis Submitted in Partial Fulfilment of the Requirements for the Degree of Doctor of Philosophy

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W. H. Z.

R. UNIV. BIBLIOTHEEK LEIDEN

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Some Factors Affecting Teacher Supply and Demand in Missouri

CHAPTER I

THE PROBLEM

Purposes of this Study

The major purpose of this study is to bring together as many facts bearing on the general problem of teacher supply and demand in Missouri as time, finances, and available state records will permit. No attempt is made to answer definitely the question: Does Missouri have an oversupply of trained teachers? The answer to this question is dependent, in a large measure, upon our definition of a trained teacher, is frequently more of a local matter than one of state-wide implications, and cannot be obtained without an adequate system of teacher-accounting records. Furthermore, it would require a large amount of money to carry on the investigation and to obtain the facts necessary for a definite answer to this question.

Although no attempt is made to obtain a definite and specific answer to the question whether Missouri has an oversupply of trained teachers, this study brings together many pertinent facts which may serve as a starting point for additional studies, and in this way contributes to the answering of this question. Since an adequate study of teacher supply and demand must be a continual process, it is felt that this work can make a contribution by setting forth and answering certain fundamentally important questions about the teaching population in Missouri.

In accordance with the major purpose of this study, the following questions will be considered:

1. How many new teachers are employed in Missouri each year?
2. How many persons are legally qualified to teach in Missouri?
3. What is the status of the typical Missouri teacher with regard to sex, age, salary, experience, tenure, training, schools attended, and types of certificates held?
4. What is the status of the typical inexperienced teacher with regard to sex, age, salary, training, schools attended, and types of certificates held?
5. How does the demand for new teachers compare with the supply?
6. What do the answers to these questions point towards in the way of a need for a definite teacher-training program?

LIMITATIONS OF THE PROBLEM

The present study is concerned primarily with that phase of the whole problem which relates to the status of both the experienced and inexperienced public school teachers in Missouri, excepting the teachers of Kansas City and St. Louis, who were not included, since these two cities supply practically all of their own teachers through special certificate privileges.

Recognition is made of the fact that private schools render an invaluable service in the way of affording educational opportunities to the children of the State. However, since the public schools are created, controlled, and in part supported by the State, the State of necessity must provide an adequate supply of teachers to meet its needs. Since the State is in no way directly obligated to provide teachers for the schools not supported by it, and largely out of its jurisdiction, and since adequate supply and demand data concerning teachers in private schools are exceedingly difficult to obtain, this study considers chiefly the public school teachers of Missouri.

This study is further limited in that it is concerned primarily with the status of the Missouri teachers who taught in 1929-30. It brings together many facts related to supply and demand, but there is no attempt to make a complete analysis of these factors. It was thought that a detailed study of one phase of the problem would be of more value than a general study of a much broader field. This limitation was made necessary in part by the fact that an investigation of supply and demand would require a period of years, a number of trained helpers, and considerable financial support. None of these was available for the present study.

OTHER RELATED STUDIES

The problem of supply and demand for teachers, in both its wider and its narrower aspects, is attracting the attention of many educators throughout the country. Consequently, it is a problem upon which several investigations have been made.

Attempts are being made in several states to determine the demand for teachers as compared with the available supply. Among the most noteworthy of these attempts is the work done by Buckingham in Ohio.[1] His study is by far the most comprehensive of the published attempts to show the supply of various kinds of trained teachers in relation to the demand for them. Though Buckingham's conclusions were significant for Ohio, they are not so significant in the actual solution of the problem for Missouri. However, considerable use has been made of his methods of investigation.

Supply and demand in the teaching profession may be more or less local in nature. One state may have an oversupply of teachers whereas a contiguous state, with inadequate teacher-training institutions, may have an under-

1. Buckingham, B. R., *Supply and Demand in Teacher Training*, Bureau of Educational Research Monograph, No. 4, The Ohio State University, 1926.

supply. This thought may be carried one step further by adding that it is possible for one section of a state to have an oversupply while another section of the state may, at the same time, have an undersupply. Moreover, supply and demand are constantly changing, and a present undersupply may in the course of a few years give way to an oversupply. The problem, therefore, is never completely solved, because supply and demand data are in constant need of revision.

It becomes evident, therefore, that the results of studies such as the one made by Buckingham are of value in Missouri only for comparative purposes and for suggesting methods of procedure.

Donovan[2] deals with the problem in Kentucky. In reality his study is broader than one of supply and demand, since it touches not only the supply and demand phase of the question, but also the broader problem of the status of teachers in service and the facilities of the State for training them.

Grant[3], in treating the problem in Arkansas, approached it from a still different angle, but attempted to show the demand for teachers and the facilities of the State for preparing an adequate supply. Since supply and demand are matters essentially local in nature, the conclusions of these studies may not be valid for Missouri. Consequently, although these investigations are no doubt valuable in pointing towards a solution of the problem in their respective states and for demonstrating the effectiveness of certain methods of treatment, they make no appreciable contribution to the present study, except for comparisons and suggestions regarding techniques of investigation.

Anderson[4] touches a different phase of the problem by showing the supply of trained English teachers in relation to the demand for them in the public high schools of Ohio. He reports that in Ohio there is a definite oversupply not only of teachers who teach English alone, but also of those who teach English with other subjects. His study is more limited in scope than the preceding studies, because there may be a definite oversupply of English teachers in a state, and at the same time a definite undersupply of teachers for any one of several other subjects.

Adams[5] treats the problem of supply and demand in Missouri by setting for himself these problems:

1. To determine the demand for each type of teacher in the public schools of Missouri.
2. To determine the supply of teachers for each type of position in the public schools of Missouri.

2. Donovan, H. L., *A State's Elementary Teacher Training Problem* (*Kentucky*), George Peabody College for Teachers, Contributions to Education, No. 17, 1925.

3. Grant, J. R., *A State's Teacher-Training Problem*, George Peabody College for Teachers, Contributions to Education, No. 18, 1925.

4. Anderson, E. W., *A Study in Supply and Demand*, Educational Research Bulletin, The Ohio State University, Vol. VIII, No. 18, December 4, 1929, pp. 399-403.

5. Adams, E. R., *Trained-Teacher Demand and Supply in Missouri*. Unpublished Master's thesis, University of Missouri, 1923.

3. To compare the supply of teachers for each type of position with the demand.
4. To make suggestions concerning teacher accounting in Missouri.

His problem is limited chiefly to the supply and demand aspect of the problem, and does not treat the status of the teacher. His study was completed in 1923. Since that time, economic conditions and doubtless also conditions in the teaching profession have changed.

In "Facts Concerning Public Education in Missouri"[6] may be found a discussion of the problem of certification of teachers in Missouri. In this discussion, however, little attempt is made to answer questions pertaining to the supply of teachers. This study is limited chiefly to the presentation of facts bearing on the history of certification, the number of teaching positions in the State, the certification of employed teachers, and the number of certificates issued by the different agencies.

The educational survey of the Missouri Survey Commission[7] also touches the problem of supply and demand in its preliminary report by estimating the number of new teachers and the number of replacements needed in each of the teachers college districts for a period of years ending with 1940. The report shows the approximate number of teachers certificated by the various certificating agencies of the State, and outlines a program for preparing teachers under the new standards of professional and academic training which the Survey Commission proposes. The Commission frankly admits, however, that the data used for supply and demand are only estimates of the true situation.

The Carnegie Foundation for the Advancement of Teaching[8] dealt with the problem somewhat indirectly by attempting to determine the efficiency of state teachers colleges in training teachers for the public schools of the State. It treated the problem of certification of teachers and studied the personnel of the teachers colleges of Missouri with regard to sex, age, parentage, teaching experience, and the like. It does not, however, attack directly the problem of supply and demand.

Benson[9] made a study of a large number of graduates of teacher-training institutions in the various states, in order to determine how many of them taught, where they taught, how long they taught, and what they taught. But his findings bear only indirectly on the problem in hand.

One may name many studies bearing on minor phases of this problem. Salary, tenure, experience, and the training of teachers have long served as

6. *Facts Concerning Public Education in Missouri*, Supplement, Seventy-Fifth Report of the Public Schools of the State of Missouri, 1924, pp. 61-86.

7. *Preliminary Report of the Survey of the Public Schools and Higher Institutions in the State of Missouri*, Vol. II, pp. 350-364.

8. *The Professional Preparation of Teachers for American Public Schools*, Carnegie Foundation for the Advancement of Teaching, Bulletin No. 14, 1920.

9. Benson, C. E., *The Output of Professional Schools for Teachers*, 1922.

objects for investigation. No attempt, however, will be made at this time to offer a critique of these studies, but note of them will be made as the need arises.

Need for this Study

A survey of the related studies in the field of teacher-training indicates that an active interest is now being taken in several states in securing an adequate supply of well-trained teachers for their schools.

Missouri is among those states which should inaugurate a sound teacher-training program in order to secure that well-trained supply which is essential to the welfare of the school population. Without a study of supply and demand and of the status of teacher-training in the State, no such sound program can by inaugurated, because it would lack the scientific basis upon which any successful program should be built. Consequently, there is a need for a number of studies which collect and organize facts pertinent to supply and demand in Missouri.

Sources and Extent of Data

The data for the present study were collected primarily from two distinct sources; namely, from information blanks which were sent to a representative sample of teachers throughout the State, and from state documents and reports which were used to supplement the former.

This investigation has undertaken to make one of the most extensive surveys to date of the status of the Missouri teacher. Since data available in the state documents and reports were frequently incomplete, unreliable, and incomparable, the method of going direct to the teacher was resorted to as the only adequate means of procuring the major portion of the necessary data.

The Educational Survey Committee of the Missouri Survey Commission was also in need of facts concerning the status of teachers in Missouri, and cooperated in financing the information blank sent to the teachers of the State. This blank was put into the hands of the teachers of the State in the following manner. From lists of the rural school teachers, obtained from the office of the Secretary of the Missouri State Teachers Association, there were selected 60 of the 114 counties, representing as well as possible the various sections of the State. To every rural teacher in these counties an information blank was mailed. The total number of blanks mailed was 4,271.

By means of the latest Missouri Report of Public Schools and the Missouri School Directory, it was possible to determine approximately the total number of superintendents, principals, elementary, and high-school teachers in the high-school districts in each of these sixty counties. There was mailed to the superintendents of these systems enough blanks to give one to every teacher. The superintendents were asked to have them filled out and returned. The number mailed in this manner amounted to 5,106.

By these two methods, 9,377 information blanks were placed in the hands of all the teachers of 60 representative counties of the State.

When it became necessary to make the final tabulations, 5,407 of these blanks had been returned in usable form. Approximately 52 per cent of the information blanks sent to rural teachers, and 63 per cent of those sent to the superintendents were returned. For all teachers in the State combined, the per cent returned in usable form was 57.7 per cent of the total number mailed.

It is believed that returns of 58 per cent on 9,400 teachers, representing over one-half of the counties of the State, provides a representative and adequate sampling of the teachers of the State, and the basis for a much more thorough and extensive study than has heretofore been made of the situation in Missouri.

Although the returns furnish nearly as good a sample of the teachers in Missouri as it is possible to obtain, they probably depict the situation as better than it actually is. In other words, no matter how extensive a sampling of teachers may be obtained in a study of this nature, probably the most poorly trained teachers are those who most frequently fail to return the information blanks.

CHAPTER II

THE DEMAND FOR TEACHERS IN MISSOURI

Experienced and prospective teachers, in applying for new positions, frequently find many other applicants for the same position. The placement committees and appointment divisions of our universities and colleges frequently call our attention to the oversupply of teachers for certain types of work and to the undersupply for certain other types. On the other hand, boards of education often find it difficult to obtain what they consider to be qualified applicants for the particular type of position in which there happens to be a vacancy.

There is a problem of supply and demand in the educational profession. The problem is ever present, and a constructive program of teacher-training must be based on a clear conception of the nature of the problem of supply and demand.

Buckingham[10] says:

> "Teachers may not find it altogether palatable to be told that their salaries, tenure, and indeed, the very existence of their positions, depend upon the same economic law which is said to regulate the price of wheat, the value of a dollar, and the wages of the laborer. Nevertheless, this law—the law of supply and demand—does operate with respect to teachers. If there are more teachers for a given type of work than there are available positions, salaries go down, hours of teaching go up, and working conditions are made more exacting. . . . . On the other hand, if the demand exceeds the supply, there is a tendency for salaries to increase and for working conditions to be easy."

It becomes increasingly apparent that the best interests of the State will be served by a reasonable parity between supply and demand. Under this condition the State teacher-training institutions will have a fairly definite objective, namely, to train a more or less constant supply of teachers. Furthermore, teachers will have no appreciable fear of being forced to relinquish their positions because of underbidding by less prepared applicants. And finally, there will be relatively little of that arrogance on the part of teachers which is shown in times of an undersupply of teachers in which, as Buckingham[11] says:

> "They join federations and loudly denounce supervision as an infringement of their personal rights. They refuse to take on extra duties or do so reluctantly."

10. Buckingham, B. R., *Supply and Demand in Teacher Training*, Bureau of Educational Research Monograph, No. 4, The Ohio State University, 1926, p. 1.
11. Ibid., p. 2.

Methods of Attack Used in Other Studies

The most extensive of the previous investigations is the study conducted by Buckingham, to which several citations have already been made. This study, generously subsidized by the Commonwealth Fund, was conducted over a period of nearly two years in an attempt to gather together all pertinent facts dealing with the supply and demand of teachers in Ohio. It would, however, be impossible to duplicate this investigation without the expenditure of thousands of dollars, a fairly large clerical force, and eighteen to twenty-four months' time.

Donovan[12] attacked the teacher-training problem in Kentucky. He touched the problem of supply and demand by treating the topic "Kentucky's need for trained teachers and the facilities for preparing them." Donovan arrived at his answer to the question "How many trained teachers does Kentucky need?" by a method of determining the average daily attendance in the elementary schools of Kentucky, by determining the number of pupils that a teacher may "efficiently instruct," and then by dividing the latter into the former in order to obtain the number of trained teachers needed.

This procedure would be applicable to a state problem only if we could accurately determine the number of rural, elementary, and high-school pupils who may be efficiently instructed by one teacher, and if there were an almost ideal distribution of pupils in the school districts of the state so that in some there would not be too few pupils per teacher and in others too many. Conditions in Missouri, however, make worthless any such assumption.

A study by Grant[13] on the teacher-training problem in Arkansas also deals with the question of supply and demand. He defined demand in Arkansas as the number and kind of new teachers (using new to mean those who did not do full-time teaching in Arkansas the preceding year) employed each year in the rural, elementary, and high-school positions of the State. This definition, however, fails to take into consideration that there may be a demand which cannot be filled by the present supply. That is, if a school board were unable to find a suitable teacher, or if there were insufficient money on hand to enable the district to employ a teacher, the position might remain unfilled, and consequently there would be a demand for teachers which could not be measured by this plan.

Grant's study measures demand in terms of the number of new teachers needed, irrespective of their preparation and fitness for the work other than that they have been legally qualified under the certification laws of Arkansas. This condition may or may not differ materially from what may be called satisfactory preparation for teaching in the schools of some states, but a brief

12. Donovan, H. L., *A State's Elementary Teacher Training Problem, (Kentucky)*, George Peabody College for Teachers, Contributions to Education, No. 17, 1925.

13. Grant, J. R., *A State's Teacher Training Problem*, George Peabody College for Teachers, Contributions to Education No. 18, 1925.

study of the methods of teacher certification in Missouri enables one to see immediately that large numbers of rural teachers are untrained. Chapter IV of this study deals with this problem more specifically.

A study which brings the question closer to our own problem is one by Adams[14] dealing with "Trained Teacher Demand and Supply in Missouri." He attacked demand from two points of view, namely, demand based on the total number of teaching positions in the State, and demand based on the number of inexperienced teachers securing employment each year. As will be noted later, Adams found it necessary to use this latter point of view in his comparisons of demand and trained supply in Missouri.

A careful examination of the complex factors involved in such a study makes evident the great difficulties to be encountered in attacking the problem.

Buckingham[15] has made definite statements concerning these difficulties by remarking that such a study should be handled by a very "extractive" office, and that it should not be attempted until the basic records are established as a matter of school routine. He might also have added that one undertaking research in this field should have an adequate clerical force, adequate financial backing, and a sufficiently long period of time to insure an exhaustive study.

The preceding studies indicate that there are several points of view from which one may analyze the problem of teacher supply and demand in Missouri. From a general point of view, the total demand for teachers in Missouri may be measured by the total number of teaching positions in the State. That is, the demand for teachers is the actual number of teachers employed in any given year plus the number of positions which remained unfilled. The latter portion of this method was used by Buckingham.[16] After failing on one attempt to determine the number of unfilled positions, he was able to report a year later that Ohio had approximately 775 unfilled positions.

In Missouri it would be impossible to determine accurately how many positions remain unfilled, without sending a questionnaire to the county superintendents. Even then the results might be unreliable, unless the investigator were assured of utmost cooperation and a complete response from the county officers. In the present study, the lack of time and funds made it impossible to use this technique.

A second possible method of attack is to define demand for teachers as the number of persons teaching in a given year who did not teach during the immediately preceding year. This definition would limit the problem to some extent in comparison with the first-named plan, but would offer more possibilities for a solution.

14. Adams, E. R., *Trained Teacher Demand and Supply in Missouri.* Unpublished Master's thesis, University of Missouri, 1923.

15. Buckingham, B. R., "Research in Teacher Supply and Demand," *Educational Administration and Supervision*, XV, April, 1929, pp. 259-60.

16. Buckingham, B. R., *Supply and Demand in Teacher Training*, Bureau of Educational Research, Monograph, No. 4, The Ohio State University, 1926, p. 12.

This definition assumes that the number of teachers in the state remaining in the teaching profession consecutively from year to year, is a part of a fairly constant supply. Although teachers may change rank within a school, type of school within a town, or location within a state, such movements in no way augment the demand for new teachers. In other words, the teachers remaining in the profession are assumed to be a potential supply in filling a corresponding number of positions. This method, therefore, reduces the demand for teachers to the actual number needed either to fill newly created positions or to fill those vacant because of teachers leaving the profession either permanently or temporarily.

When a teacher leaves the profession either temporarily or permanently, he gives up a position which must be filled either by an experienced teacher who, in accepting, would leave vacant his position, or by a new teacher; that is, by one who did not teach during the immediately preceding year. In the last analysis, the de nand would be the number of new teachers needed annually to fill the vacant positions. Such a procedure, however, should take cognizance of the fact that some positions might remain unfilled and that the number of new teachers employed in any one year might not represent the total demand.

A plan of this nature was used in the study by Grant in which he determined the need for teachers by sending a questionnaire to the superintendents of city and county systems. He sought to obtain information regarding both the number of new teachers (using new to mean those who did not do full-time teaching in Arkansas the preceding year) and the total number of teachers employed in their systems. No attempt was made to augment this number by the number of positions remaining unfilled.

An attack on the problem from this point of view in Missouri would necessarily involve the questionnaire technique inasmuch as there are available no records which show facts concerning either the number of teachers who leave the profession from year to year, or the number who return after having been out of it for a period of time.

Neither does this plan recognize the fact that demand should be something more than the number of teachers appointed each year. Buckingham[17] says:

> "A more vital question is what kind of persons are the various districts of the state insisting upon having in the classroom. Again, what are the standards required by the state before a license to teach may be secured? It is this type of demand—the quality of demand—which more than any other determines the kind of schools the state will have."

17. Buckingham, B. R., "Research in Teacher Supply and Demand," *Educational Administration and Supervision*, XV, April, 1929, p. 261.

The situation in Missouri is well described by Adams[18], who says:

> "There are no data available to show the number of experienced teachers who return yearly to the teaching profession after having been out of it for a year or more, nor are there data to show how many teachers come in from other states. Therefore, the number of inexperienced teachers each year is taken as the only available measure of demand."

The preceding quotation points to another possible attack; namely, that of defining demand as the number of teachers with no experience in Missouri needed each year to fill the vacant positions.

In addition to the above-named study by Adams, this method of approach has been used by Anderson[19] in a study in supply and demand of English teachers in Ohio. He defined demand in the following manner:

> "The study was made to find the actual relationship between the number of new English teachers trained each year and the ability of the high schools of the State to absorb previously inexperienced English teachers"....
>
> "The data relate only to teachers who have had no previous teaching experience."

This method makes necessary the assumption that almost all persons once certificated and with experience always remain a part of a potential supply of teachers. With the present certification laws in Missouri, the supply of teachers, rural teachers particularly, is almost unlimited. In fact, the supply of rural teachers is limited only by the ability of the applicants to pass a county examination, and by the willingness of district school boards to employ them.

We know that persons who have given up teaching for more training or for other reasons are continually re-entering the profession. In defining demand as the number of inexperienced teachers needed each year, one assumes that the number re-entering from year to year will remain fairly constant under normal economic conditions. Hence, the real problem of the teacher-training institutions is to train each year enough inexperienced teachers to supply adequately the demand, but at the same time to keep the number low enough so that there will be no oversupply.

It should be noted, furthermore, that demand is qualitative as well as quantitative. This fact has been discussed previously, but it should be called to attention again from a slightly different point of view.

Buckingham[20] makes it clear that whether there is an oversupply or an undersupply of teachers may depend upon our definition of demand and what we consider an adequately trained teacher. If we define supply and demand in

18. Adams, E. R., *Trained Teacher Demand and Supply in Missouri.* Unpublished Master's thesis, University of Missouri, 1923, p. 39.

19. Anderson, E. W., *A Study in Supply and Demand*, Educational Research Bulletin, Vol. VIII, No. 18, The Ohio State University, December 4, 1929, p. 399.

20. Buckingham, B. R., "Research in Teacher Supply and Demand," *Educational Administration and Supervision*, XV, April, 1929, p. 261.

terms of well-trained teachers graduating from specialized courses of professional training, the supply will be of high quality, but of limited numbers. On the other hand, if we consider any one who is legally qualified to teach under the present certification laws of many states as an adequately prepared teacher, it is conceivable and probable that there may be an oversupply, but of inadequately prepared teachers.

Obviously, then, if there should be an oversupply of inadequately prepared teachers in Missouri, one method of alleviating this situation is to raise the quality of the supply by setting higher certification requirements, and by urging boards of education to employ only competent and well-trained teachers.

Statement of the Problem of Supply and Demand

In the last analysis, then, the problem of supply and demand is one which may be approached from several points of view, and one in which the answer to the question as to whether there is an undersupply or an oversupply of teachers is dependent largely upon the definition of the quality of demand and supply. In Missouri, at the present time, with the lack of adequate records and available data bearing on the question, the problem can be attacked with facility only by assuming demand to be the number of inexperienced teachers employed each year.

Method of Determining Demand in Missouri

With demand defined as the number of inexperienced teachers employed each year, the next problem is to determine the need for new teachers in the State, excluding Kansas City and St. Louis. Table I shows the total number of persons employed in all of the public schools of Missouri for several years.

Table I

Number of Persons Employed in Missouri in Various Types of Educational Service (a)

Year	Type of Educational Service					
	Rural teachers	Elementary teachers	High school teachers	High school principals	Superintendents	Total
1925-26	8,930	9,948	3,558	892	719	24,947
1926-27	8,688	10,327	3,943	920	874	24,752
1927-28	8,519	10,413	4,156	1,015	841	24,944
1928-29 (b)	8,450	10,559	4,045	846	897	24,797
Total number in State outside Kansas City and St. Louis in 1928-29 (c)	8,450	6,834	2,619	796	881	19,580

(a) These data were collected from the Missouri Reports of Public Schools.

(b) Data for 1928-29 are the latest available, and will appear in the Eightieth Missouri Report of Public Schools.

(c) Data on number of teachers in Kansas City and St. Louis were taken from the School Directory of Missouri for 1928-29 and subtracted from the total number as given above.

In 1928-29 there were 24,797 persons teaching in the public schools of Missouri. Of this number, 8,450 were rural teachers, 10,559 were elementary teachers, and 5,788, including high-school principals and superintendents, were high-school teachers. However, since the data are limited by excluding both Kansas City and St. Louis, it is necessary to deduct the number of teachers in these cities from the totals as is also shown in Table I.

Since we know the total number of rural, elementary, and high-school teachers; since we know also the number of rural, elementary, and high-school teachers in our sample from the Information Blanks; and since we know the number of inexperienced teachers in the sample for each of these types of service, it is a simple matter to estimate the number of new teachers needed each year in the State.

Inasmuch as the data presented in Table I show that the number of teachers employed each year has remained almost stationary since 1925-26, we feel justified in assuming that 1928-29 is a comparatively typical year, and that the data collected thereon will present the situation adequately with respect to the demand for teachers. Therefore, on the basis of the ratios between the numbers in our samples and the totals for the different types of teachers in the State, it is estimated that Missouri, outside the two large cities, needs each year 2,180 inexperienced rural teachers, 636 inexperienced elementary teachers, 277 inexperienced high-school teachers, 54 inexperienced high-school principals, and 17 inexperienced superintendents, or a total of 3,164 inexperienced teachers either to fill positions left vacant by teachers who have temporarily or permanently left the profession, or to fill newly created positions.

Reasons Why Persons Leave Teaching

Since there are many new teachers needed each year to fill vacancies left by teachers who are leaving the profession, it becomes important to know why teachers leave the profession, and, if they return at some later date, how long they remain away from teaching.

The reasons given by men and women as to why they left teaching show that the majority of each group, 60 per cent of the men and 57 per cent of the women, left "to attend school". This fact tends to indicate that they will probably return to teaching after a year or two of additional training.

Over 18 per cent of the women leave teaching in order to marry or to assume the duties of the home. Approximately 22 per cent of the men quit teaching to accept other employment. Most of the persons in these groups are probably out of the profession more or less permanently. Other reasons of minor importance are listed, but the chief reasons given for leaving teaching are: "to attend school", "to assume the duties of the home", and "to secure other employment."

LENGTH OF TIME TEACHERS WHO LEAVE TEACHING STAY OUT BEFORE RETURNING

If a person leaves teaching temporarily, how long is he likely to remain out of the profession? Of the 363 teachers in the sample who returned to teaching in 1929-30, 57 per cent had been out for only one year, 22 per cent for two years, 7 per cent for three years, and 5 per cent for four years. There are some, however, who had been out for more than eight years before returning.

SUMMARY

The question as to whether there is an oversupply of teachers is one in which the solution depends largely upon our definition of demand. In the present instance, it was necessary to define demand as the number of inexperienced teachers needed each year.

It was found that 2,180 new rural teachers, 637 new elementary teachers, 277 new high-school teachers, 54 new high-school principals, and 17 new superintendents are needed each year to fill the vacant positions in the State outside the two large cities. This total of 3,164 represents the total demand for inexperienced teachers in the public schools of the State outside of St. Louis and Kansas City.

Teachers who leave the profession do so largely because of their desire to attend school, to marry, or to obtain other employment. Teachers who drop out of teaching and then return to the profession usually return within one or two years.

CHAPTER III

THE SUPPLY OF TEACHERS IN MISSOURI

Statement of the Supply Problem

It was said in the preceding chapter that a state may have an oversupply or an undersupply of teachers, depending upon the definition of a trained teacher. If the standards for teaching are high enough, there will be an insufficient supply of trained teachers; if, on the other hand, the standards are low enough, there will be an oversupply of poorly trained teachers.

It is the purpose of this chapter to show the situation in Missouri in two ways:

1. As it is at present under the existing certification laws of Missouri.
2. As it would be in the light of modern educational theory.

Definition of Supply

The supply of teachers is, in the broadest sense, the total number of persons who may teach in the schools of the state. In itself, however, this measure of supply is inadequate, for state departments of education have limited the number of those who may teach by setting up certain qualifications for obtaining the certificates which allow the holders to teach in the public schools.

The present certification regulations of Missouri permit persons to teach in the public schools with little or no college training. It is safe to say that the only qualifications requisite to teaching in many rural schools of Missouri are the ability to pass a county examination and the ability to persuade school boards to employ.

The total supply of teachers in Missouri at the present time is the number of persons certificated each year plus the number already holding valid certificates issued at some previous time. Such a definition of supply, however, does not show a true picture of the actual situation, because many persons holding certificates never intend to teach, some leave the state to accept positions, some enter other types of employment, and some obtain another certificate of a higher level during the course of a year in which they are already holding a position. A complete representation of the available supply of teachers would take these factors into consideration. An investigation of this nature was impossible in this study because of inadequate funds.

In view of this fact, the supply of teachers in Missouri has been defined as the number of persons legally qualified for teaching in 1929-30 by virtue of having been certificated in 1928-29. This definition has its limitations, but it is believed to present a picture of the supply which is indicative of the true situation in Missouri.

SUPPLY OF TEACHERS UNDER PRESENT CERTIFICATION REGULATIONS

Since supply is defined as the number of persons certificated in 1928-29, it is necessary to know the number of persons who were issued certificates by the various agencies during that year. It was found that 9,436 certificates were issued by all of the certificating agencies in Missouri outside of St. Louis and Kansas City. Of this number, 3,586 were issued by the State Department of Education, 2,572 by the higher teacher-training institutions, and 3,278 by the county superintendents. It was found also that there were 1,645 certificates based upon 120 hours of work, 1,650 on 60 hours, and 1,377 on 30 hours. There were 4,728 certificates which require practically no college work for their issuance. These are the Teachers-Training Certificate, County Specials, County Second, Third, and nearly all of the County First Grade Certificates.

A comparison of these data with those of the same nature for 1923 indicates that Missouri is taking rapid strides toward eliminating the low grade certificates. In 1923 there were 813 certficates issued on the basis of 120 hours, 1,733 on 60 hours, 1,162 on 30 hours, 2,569 on the basis of high school work plus small amounts of college training, and 7,069 by county superintendents.[21]

The fact that the number of certificates issued annually outside of the two large cities decreased from 13,893 in 1923 to 9,436 in 1928-29 is a good indication, since it points toward the fact that those teaching during the year 1929-30 hold higher types of certificates. In addition, the number of certificates issued by county superintendents has decreased from 7,069 to 3,278.

It is gratifying to note the large numbers who are being graduated each year from the four-year teacher-training institutions of the State. The number of baccalaureate degrees issued by all state teacher-training institutions has increased from 539 to 1,125 a year during the six-year period, and the number of Elementary Teachers Certificates on the basis of 30 hours has decreased from 1,116 to 571.

In spite of the tendency for teachers to hold higher certificates, many teachers in Missouri are poorly trained. Under the present certification regulations, large numbers of persons are legally qualified to teach, and the teachers certificated in 1928-29 by the agencies in Missouri represent the available supply of teachers as defined in this chapter.

SUPPLY OF TEACHERS ACCORDING TO STANDARDS SET IN MODERN EDUCATIONAL THEORY AND PRACTICE

What amount of training constitutes satisfactory preparation for teaching in the rural, elementary, and high schools of Missouri? The usually accepted standard for minimum preparation of high-school teachers is that given

21. *Facts Concerning Public Education in Missouri*, Supplement, Seventy-fifth Report of the Public Schools of the State of Missouri, School year ending June 30, 1924, p. 78.

by the North Central, the Southern, and the Northwest Associations of Colleges and Secondary Schools;[22] namely, graduation from a standard four-year college with a minimum of 15 semester hours in professional education courses. This standard is so widely accepted that there can be little or no criticism of its being too high as a minimum for the preparation of high-school teachers.

In order to indicate the trend with respect to the desirable training of elementary and rural teachers, a few quotations from leaders in educational theory and practice follow:

Bagley[23] in 1920 stated:

> "It is generally agreed that the minimum of preparation for a teacher should be not less than two years of education beyond graduation from a four-year high school."

The Salary Committee of the National Education Association in its report says:[24]

> "In regard to the standards for professional and academic training required for beginning teachers, there is practical agreement in believing that no elementary teacher should have less than two years of normal-school training above a standard four-year high school."

Donovan says:[25]

> "High school graduation plus two years of academic and professional preparation in a teacher-training institution is a minimum preparation for teaching in the elementary school."

Many educators believe that rural teachers should have two years of training above a standard four-year high-school course. Commissioner Graves of New York advocates a two-year course for all rural teachers of the state.[26]

Buckingham[27] makes this significant statement:

> "I doubt if there is a state in the Union which should not require at least two years of training beyond high school before a person can become a teacher of any kind."

The preliminary report of the Missouri Survey Commission makes the following statement concerning standards for the preparation of teachers:

> "Since five states have already set two years of professional training above high school as a standard, Missouri cannot consistently set one any lower."[28]

22. "Current Standards for Secondary Schools," *North Central Association Quarterly*, Vol. IV, No. 3, December 1929, p. 430.

23. Bagley, W. C., *Adequate Preparation for an Adequate Number of Teachers to Fill the Schools of the United States*, United States Bureau of Education Bulletin No. 29, 1920, p. 22.

24. *Research Bulletin, National Education Association*, May, 1923, p. 49.

25. Donovan, H. L., *A State's Elementary Teacher Training Problem*, (*Kentucky*), George Peabody College for Teachers, Contributions to Education, No. 17, 1925, p. 66.

26. "Training of Rural Teachers in New York," *School and Society*, Vol. XXVII, January 21, 1928, p. 70.

27. Buckingham, B. R., "Research in Teacher Supply and Demand," *Journal of Educational Administration and Supervision*, XV, April, 1929, p. 261.

28. *Preliminary Report of the Survey of Public Schools and Higher Institutions in the State of Missouri*, Vol. II, p. 351. Unpublished.

Furthermore, many of the state teacher-training institutions have found it advisable to offer two-year curricula for intending rural and elementary teachers.

An analysis of the foregoing opinions and practices will reveal the following minimum standards for the preparation of teachers:

1. For high-school teachers, graduation from a standard four-year college, or its equivalent in semester hours.
2. For elementary and rural teachers, a minimum of two years of college training above graduation from a standard four-year high school.

How would the adoption of the preceding standards for the training of teachers in Missouri affect the available supply? If the proposed standards went into effect, all teachers with high-school teacher-training certificates, with county certificates, and with certificates based on 30 semester hours of college work would be eliminated from the available supply. This would leave 3,331 teachers. That is, according to our definition, there would be an available supply of 3,331 teachers.

SUMMARY

If we consider the supply of teachers to be those certificated in 1928-29 under the present certification laws of Missouri, there would be 9,436 teachers available. If, however, certain minimum standards suggested in preceding paragraphs were put into effect, the available supply would be reduced to 3,331 teachers. These minimum standards have been put into operation by at least five states, and are advocated almost universally by leading educational authorities.

CHAPTER IV

STATUS OF THE TYPICAL MISSOURI TEACHER IN 1929-30

A discussion of the status of the teaching force of the Missouri public schools is important because of its vital relationship to any study of the question of supply and demand for trained teachers. Any study dealing with this question carries with it the necessity not only of a careful survey of the conditions under which the teaching force of the State works, but also for an analysis of such factors as tenure, experience, age, sex, salary, types of certificates held, and the amount of academic and professional preparation of those teaching.

QUESTIONS CONSIDERED

In presenting the status of the Missouri teacher, the following questions will be considered:

1. What proportion of the Missouri teachers are women?
2. What proportion of the women teachers are married?
3. What is the age of the typical teacher in Missouri?
4. What colleges, if any, have Missouri teachers attended?
5. To what extent have Missouri teachers been trained academically and professionally?
6. How long has the typical Missouri teacher taught?
7. How long has the typical Missouri teacher taught in his present position?
8. What is the average salary of the typical Missouri teacher?
9. What types of certificates are held by Missouri teachers?

NUMBER OF MEN AND WOMEN TEACHERS IN MISSOURI

It is a matter of common knowledge that the teaching profession is chiefly composed of women. The only question remaining is the extent to which this condition exists in Missouri. The data collected for the rural, elementary, and high-school teachers show that this condition obtains to a very marked degree. Table II shows both the number and per cent of men and women teachers in the various levels of educational service.

It is both interesting and significant that, according to Table II, only 4.8 per cent of the elementary teachers are men, as compared with 16.8 per cent men in the rural schools, with 24.7 per cent in the high schools, or with 21.4 per cent for all teachers.

It is difficult to believe that the situation in Missouri is very desirable in this respect, for it is reasonable to assume that growing boys and girls, particularly the boys, would profit greatly by association with a more nearly equal number of men and women teachers. At present, especially in our rural and elementary schools, any condition approaching equality of numbers

between men and women teachers is far from being realized, since in Missouri only about one classroom teacher in seven is a man. In the elementary schools the ratio is about one in twenty.

TABLE II

THE NUMBER AND PER CENT OF MEN AND WOMEN TEACHERS IN OUR SAMPLE IN MISSOURI IN 1929-30

Type of Educational Service	Women		Men	
	Number	Per Cent	Number	Per Cent
Rural	1,784	83.2	360	16.8
Elementary	1,379	95.2	70	4.8
High School	712	75.3	234	24.7
Elementary Principals	85	59.8	57	40.2
High-School Principals	94	39.7	143	60.3
Superintendents	11	4.3	243	95.7
Supervisors	28	71.8	11	28.2
Miscellaneous	21	100.0	0	0
Totals	4,114	78.6	1,118	21.4

Table reads: Of the rural teachers in our sample, 1,784, or 83.2 per cent, are women; 360, or 16.8 per cent, are men; etc.

MARITAL STATUS OF WOMEN TEACHERS IN MISSOURI

In certain sections of the country there is a growing feeling that married women are not desirable as teachers in the public school system. It is not the purpose of this discussion to defend either point of view regarding married women teachers. Rather, it is the purpose of this study to show only the number and per cent of married women teaching in the public schools of Missouri.

TABLE III

THE NUMBER AND PER CENT OF MARRIED AND SINGLE WOMEN TEACHERS IN OUR SAMPLE IN MISSOURI IN 1929-30

Type of Educational Service	Single		Married	
	Number	Per Cent	Number	Per Cent
Rural	1,493	83.7	291	16.3
Elementary	1,124	81.5	255	18.5
High School	562	78.9	150	21.1
Elementary Principals	54	63.5	31	36.5
High-School Principals	60	63.8	34	36.2
Superintendents	8	72.7	3	27.3
Supervisors	22	78.6	6	21.4
Miscellaneous	13	61.9	8	38.1
Totals	3,336	81.1	778	18.9

Table reads: Of the number of women in our sample who teach in the rural schools, 1,493 or 83.7 per cent, are single; 291, or 16.3 per cent, are married; etc.

Table III shows the data for 4,114 women teachers of Missouri for whom we have records. It is noted that 81.1 per cent of the teachers are single, and 18.9 per cent are married. The per cent of married women teachers increases

in the rural, elementary, and high schools, respectively. This condition would perhaps be expected in that rural teachers are comparatively young and have not had as much opportunity for becoming married as have elementary and high-school teachers.

That one should find a larger proportion of the women administrative officers married is not surprising, for one would expect them to be older, because of a period of teaching experience before entering upon administrative work.

The situation in Missouri at the present time with regard to the marital status of teachers is that about one of every five women is married.

Ages of Teachers in Missouri

The typical Missouri teacher is comparatively young. This may be expected in light of subsequent facts which will indicate the experience and the training of the teachers in Missouri in 1929-30.

The age distributions for the rural, elementary, and high-school teachers show interesting conditions. In each case the range is extremely wide, extending from 16 to 70 years for the rural teachers. Contrasted with this extremely wide range is the relatively small standard deviation, indicating a very close grouping of the ages about the central tendency of the distribution. In addition, the measures are concentrated at the extreme lower end of the scale. However, one would not expect an age distribution of teachers to approximate a normal curve, because many persons teach for only a few years after having completed their college course, and then drop out. These vacant positions are probably filled by young teachers. In this way the average age of all teachers is kept low.

Although the computation of the measures of central tendency and variability on skewed distributions may not be very significant, such measures are, nevertheless, to a considerable extent indicative of the true situation.

Reference to Table IV indicates that the means of the age distributions for rural, elementary, and high-school teachers are 23.9, 27.4, and 29.3 years respectively.

Table IV

Central Tendencies and Measures of Variability for Age Distributions of Missouri Teachers in Our Sample in 1929-30

Type of Educational Service	Median	Mean	Standard Deviation	Range in Years
Rural	21.87	23.89	7.07	16-70
Elementary	24.63	27.43	8.21	18-72
High School	27.03	29.29	7.63	18-74
All Principals	28.98	32.34	10.11	18-71
Superintendents	33.89	35.01	8.59	21-63
Supervisors	31.00	35.60	11.21	21-55
Miscellaneous	28.50	31.83	9.28	18-60

However, since the distributions are skewed considerably toward the lower end of the scale, the true situation is probably best shown by the median, because this measure does not give undue weight to the extreme cases in the distribution. Consequently, it is perhaps better to say that the typical rural teacher is 21.8 years of age, that the typical elementary teacher is 24.6 years of age, and that the typical high-school teacher is 27 years of age.

It was found that 3.9 per cent of all the rural teachers are less than 18 years of age; that 73.6 per cent are between 18 and 25; that 11.2 per cent are between 25 and 30; and the remaining 11.3 per cent are over 30 years of age.

It was found also that no elementary teachers are less than 18 years of age; that 53.6 per cent are between between 18 and 25; that 25.2 per cent are between 25 and 30; and that 21 per cent are over 30 years of age.

In all cases the median age of administrative officers is higher than that of classroom teachers. It was found to be 28.9 33.8, and 31 years, respectively, for principals, superintendents, and special subject supervisors.

Institutions Attended by Teachers in Missouri

The schools in which Missouri teachers are trained should be considered in a study of supply and demand, for these institutions are the ultimate source of any well-trained supply. An examination of this question should indicate the schools which are serving a teacher-training function, and the extent to which they serve this function.

This section of the study will consider the following questions:

1. What proportion of the Missouri teachers have attended college?
2. To what extent are the non-state-supported senior and junior colleges of Missouri serving a teacher-training function?
3. To what extent are Missouri teachers trained in the state-supported teacher-training institutions?
4. To what extent have Missouri teachers received training in colleges outside the state?
5. To what extent have Missouri teachers received training in only one institution? In two? In more than two?

It may be noted in Table V that 22.3 per cent of the rural teachers reporting in the study have never attended college. This fact indicates that the rural teachers are, in general, poorly trained both academically and professionally. That they are thus poorly trained was found to be true. This matter will be discussed later under the topic of training. The elementary and high-school teachers are better prepared, since only 2.8 per cent and 0.4 per cent of them, respectively, have never attended college.

Another interesting feature is the relatively large proportion of teachers who have received either all or a part of their training in the state-supported teacher-training institutions. Of the total number of rural teachers who have

TABLE V
NUMBER OF COLLEGES ATTENDED BY MISSOURI TEACHERS IN OUR SAMPLE

Number of teachers with college training who attended:	Rural		Elementary		High School	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Only one college	1,306	80.2	827	55.7	409	43.2
Two colleges	287	17.6	476	32.1	351	37.1
More than two colleges	35	2.2	181	12.2	187	19.7
Total number attending college	1,628	100.0	1,484	100.0	947	100.0
Number of teachers attending some college	1,628	77.7	1,484	97.2	947	99.6
Number of teachers attending no college	466	22.3	12	2.8	4	.4
Totals	2,094	100.0	1,496	100.0	951	100.0

received some training in the various types of insttutions, it was found that 67.2 per cent of them received some training in state-supported institutions, that 27.3 per cent have received training in other Missouri colleges, and that 5.5 per cent have received training in colleges outside the State.

The situation for elementary and high-school teachers is somewhat the same, only not nearly so marked. In the same manner as above, 58.9 per cent of the elementary teachers have received some training in the state-supported colleges, 27.2 per cent of them in other Missouri colleges, and 13.9 per cent of them in colleges out of the State. In the field of high-school teaching, 53.4 per cent of those trained have received some training in the state-supported colleges, 22.3 per cent in other Missouri colleges, and 24.3 per cent of them in colleges outside the State.

The marked degree to which the state-supported colleges surpass the other colleges of the State indicates, in so far as these facts are representative, that the former are fulfilling their functions as teacher-training institutions.

A more detailed examination of the types of schools attended by Missouri teachers is important. Relatively speaking, each of the teachers colleges provides about the same number of teachers. That the University of Missouri is not an institution for training rural teachers is indicated by the small number of rural teachers who have received any college training in this institution. On the other hand, the data make it evident that the teachers colleges are the schools in which a large number of rural teachers of Missouri receive their college training; that the Missouri junior colleges play a significant role; and that the senior colleges train about the same number as do the junior colleges.

In training elementary teachers, each of the teachers colleges and the University serve to about the same extent. The number receiving training in all of the non-state-supported senior colleges combined approximates the number trained in the University of Missouri alone, and the number receiving

some training in all of the Missouri junior colleges combined exceeds the number trained in the non-state-supported senior colleges by about 23 per cent. It is evident, however, that a large proportion of the elementary teachers are chiefly products of the teachers colleges and of the University of Missouri.

The University of Missouri is the chief single teacher-training institution in the State for high-school teachers; it trains more high-school teachers than does any one of the teachers colleges. It has trained more high-school teachers than have all of the non-state supported senior colleges, and nearly as many as have all of the non-state-supported senior and junior colleges combined.

The number of schools attended by the Missouri teachers, which is also shown in Table V, is of importance. It is significant that of the rural teachers who attended college 80.2 per cent went to but one school, that 17.6 per cent attended two institutions, and that 2.2 per cent attended more than two. This condition might be expected to exist, since teachers with little training could not frequently move from one institution to another. The elementary and high-school teachers attend more institutions, as shown by the fact that 55.7 per cent of the elementary and 43.2 per cent of the high-school teachers attended one college; that 32.1 per cent of the elementary and 37.1 per cent of the high-school teachers attended two colleges, and that 12.2 per cent of the elementary and 19.7 per cent of the high-school teachers attended more than two colleges. The high-school teachers appear to go from college to college more frequently than do elementary teachers, and the latter in turn more frequently than do rural teachers.

High-school teachers attend more schools than do rural or elementary teachers, and frequently leave the State to obtain a portion of their training. The original data show that frequently high-school teachers obtain the degree of Bachelor of Science in Education and leave the State to attend another college or university.

A survey of the colleges attended by Missouri teachers clearly indicates the following:

1. A considerable percentage of the rural teachers have never attended college.
2. The state-supported institutions train the major portion of the Missouri teachers.
3. The junior and non-state-supported senior colleges play an important role in the training of rural and elementary teachers.
4. The teachers colleges are the chief institutions in which the rural and elementary teachers are trained.
5. The University of Missouri is the largest single agency in the State for training high-school teachers.
6. The major portion of teachers have attended only one college,

but the per cent doing so decreases for both elementary teachers and high-school teachers.

7. A considerable number of high-school teachers leave the State for a portion of their college training.

THE ACADEMIC AND PROFESSIONAL TRAINING OF TEACHERS IN MISSOURI

It is commonly believed that, other things being equal, the kind and amount of academic and professional training of a prospective teacher bear a fairly close relationship to his success as a teacher. This belief is indicated in several ways, among which are the growing tendency to increase the number of hours of academic and professional training necessary for certification, the growing demand for better trained teachers, and the numerous surveys and published reports showing the need for better qualified teachers.

In view of this common attitude, any study of supply and demand for trained teachers in Missouri should show the amount of academic and professional training of both the teachers in service and of those forming a part of the new annual supply—that is, the teachers who are teaching for the first time. The following portion of this study deals with the extent to which Missouri teachers are trained academically. It seeks to answer the following questions:

1. How many semester hours of college work has the typical teacher in Missouri?
2. Do the teachers, in general, fall closely about the central tendency?
3. How does the training of teachers compare in the various teachers college districts?

The data shown in Table VI indicates that the median number of semester hours of college work for Missouri teachers varies from 21.9 hours for rural teachers, 75.2 hours for elementary teachers, and 128.8 hours for high-school teachers, to 137.9 hours for Missouri superintendents of schools. These data indicate that a great number of rural teachers have very little, if any, college training. The actual number of such teachers having fewer than 5

TABLE VI

NUMBER OF SEMESTER HOURS OF COLLEGE WORK FOR MISSOURI TEACHERS IN OUR SAMPLE IN 1929-30

Type of Educational Service	Median	Mean	Standard Deviation	Range
Rural	21.91	30.46	27.61	0-150
Elementary	75.21	79.36	23.88	0-170
High-School	128.82	129.02	23.79	20-230
Elementary Principals	76.14	85.42	29.99	25-160
High-School Principals	128.42	128.47	21.44	70-210
Superintendents	137.93	140.07	21.13	75-220
Supervisors	123.06	114.52	45.27	0-220
Miscellaneous	87.50	92.77	47.92	15-240

semester hours of college work is approximately 23.5 per cent of the total, whereas attendance at any recogized school for even a short term would yield five semester hours of credit. Half of the rural teachers in Missouri have fewer than 22 hours of college credit.

If thirty semester hours of work is taken to represent the normal amount of credit earned in one year, 56.3 per cent of the rural teachers of Missouri have less than one year of college training.

Only about 25 per cent of the rural teachers have as much as fifty hours of college training. If a standard of 60 hours of credit were to be accepted as the minimum amount of work to qualify one for teaching in the public schools of the State, only about 19.3 per cent of the present teaching force in the rural schools would qualify.

These figures indicate that if the number of semester hours is a satisfactory criterion of adequate preparation for teaching, the typical rural teacher in Missouri is poorly trained.

The situation for elementary teachers is considerably better. The median number of semester hours for elementary teachers is 75.2, or about two and one-half years of college work. The number with less than 60 semester hours of work is 9.7 per cent of those teaching in the elementary grades.

The high-school teachers have more college training than either the elementary or rural teachers as indicated by a median of 128.8 semester hours. This average is about six or eight semester hours in excess of the usual graduation requirements for either the degree of Bachelor of Science or for the degree of Bachelor of Arts. Only 0.7 per cent of the high-school teachers have as little as two years of college training; 6.9 per cent as little as three years; and only 15.9 per cent have less than four years of college training.

It is interesting to note that in the case of both the elementary-school principals and the secondary-school principals, the median number of hours of college work is almost identical with the median number of hours for elementary teachers and high-school teachers, respectively. In other words, the typical Missouri elementary and high-school principal does not hold his position because of additional academic preparation.

Superintendents, on the other hand, show a marked increase in the number of hours of training, the median being 137.9. They have the equivalent of the degree of Bachelor of Science in Education plus about 18 hours, which in many cases represents work towards a graduate degree. This fact is encouraging.

The central tendencies of the distributions for the total number of semester hours of work indicates that the rural, elementary, and high-school teachers have approximately 22, 75, and 129 semester hours respectively.

It is not sufficient, however, to compare only these central tendencies. It is necessary to know the variability in order to show adequately the situation with respect to the training of these teachers. Table VI, shows the standard deviations for rural, elementary, and high-school teachers. The elementary

and high-school teachers have almost identical standard deviations of about 23.8 with arithmetic means of 30.5 and 79.4 semester hours respectively, whereas the rural group differs slightly by having a standard deviation of 27.6 with an arithmetic mean of 30.5 semester hours.

The ranges of the distributions are large, and differ considerably. The range for rural teachers extends from 0 to 150 semester hours, for elementary teachers from 0 to 170 hours, and for high-school teachers from 20 to 230 semester hours.

The data relative to the training of teachers have been presented somewhat differently in Table VII, which indicates the average amount of training above the eighth grade for each group.

The median amounts of training vary considerably. The average rural teacher has 4.7 years of training above the eighth grade, the elementary teacher 6.5 years, and the high-school teacher 8.3 years.

TABLE VII

YEARS OF TRAINING ABOVE THE EIGHTH GRADE FOR MISSOURI TEACHERS IN OUR SAMPLE FOR 1929-30

Type of Educational Service	Q_1	Median	Q_3
Rural	4.24	4.73	5.66
Elementary	6.13	6.51	7.09
High School	8.07	8.29	8.64
Elementary Principals	6.06	6.54	7.68
High-School Principals	8.06	8.28	8.68
Superintendents	8.20	8.60	9.06
Supervisors	7.35	8.10	8.49
Miscellaneous	6.13	6.92	7.47

The training of rural, elementary, and high-school teachers varies somewhat in accordance with the geographical section of the State. This fact appears in Table VIII.

From the data presented, it is apparent that the teachers in the southeastern and southwestern portions of Missouri have a less amount of college training than do those in other parts of the State. In the rural school group, teachers of southeast Missouri have the least amount of college training and teachers of the southwest, northwest, and central Missouri follow in the order named, with the rural school teachers in northwest Missouri having the most college training.

In the case of the elementary group, however, the teachers of the southwest section of the State have the least amount of college training, and teachers of central Missouri have the largest amount. The southeast, northwest, and northeast Missouri districts, respectively, hold the intermediate positions.

There are no generalizations to be made for the high-school teachers, since the differences are too small to be of value in demonstrating the existence

of any real difference. The median amount of training for the high-school teachers in all districts is approximately 129 semester hours, with the exception of the southeast Missouri district, in which the median is slightly lower.

TABLE VIII

SUMMARY OF THE TOTAL NUMBER OF SEMESTER HOURS OF COLLEGE WORK FOR TEACHERS IN MISSOURI BY TEACHERS COLLEGE DISTRICTS IN 1929-30

Teachers College District	Rural Teachers			Elementary Teachers			High-School Teachers		
	Median	Mean	S. D.	Median	Mean	S. D.	Median	Mean	S. D.
Cape Girardeau	10.61	18.73	22.80	73.20	76.53	24.35	126.06	128.93	26.35
Kirksville	24.28	31.79	25.74	77.32	82.29	28.11	129.85	135.06	20.08
Maryville	42.16	42.65	29.63	74.74	79.42	20.13	129.54	130.74	22.99
Springfield	15.30	24.19	21.84	70.43	71.33	21.58	129.63	134.29	23.49
Warrensburg	33.04	38.94	31.91	85.94	86.67	27.22	129.39	138.15	23.32
Totals for all Teachers	21.91	30.48	27.61	75.21	79.36	23.89	128.82	134.02	23.79

It is thought by many that, other things being equal, courses of a professional nature may tend to indicate better preparation and training for teaching in the public schools. State boards of education, teacher-training institutions, accrediting agencies, and leading educators, in setting requirements for graduation and standards for certification and accreditment, not only state the total number of hours of academic training necessary, but also usually set a minimum number of hours of professional training, and frequently prescribe certain professional courses.

In view of this tendency to include professional work as a necessary part of an adequate training, this study seeks to present the status of the Missouri public school teacher in this respect.

The number of hours of professional training is a function of the total number of hours, and consequently a positive relationship may be expected to exist between these two factors. Since many persons take a considerable amount of college work but no professional work, the per cent of those with no professional work will exceed to a considerable extent the per cent of those having no academic college work. This is found to be the case, as shown in Table IX, for 47.17 per cent of all rural teachers report less than two semester hours of professional credit. Since nearly any professional course in any institution would yield at least two semester hours of credit, it may be said for all practical purposes that 47 per cent of the rural teachers in Missouri have no professional training. In other words, though we believe that some professional credit is an important part of adequate training, almost one-half of our rural teachers are without such work. The median amount of professional training for all rural teachers is only 3.5 hours, and only one-fourth of these teachers have had as much as 12.9 hours.

The professional training of elementary teachers is considerably better, since only 1.8 per cent of this group report no professional credit, and only 4.7

per cent report less than 10 hours. The median amount of professional credit for elementary teachers is approximately 20 hours, and one-fourth of them have over 25.4 hours.

Table IX

Number of Semester Hours of Professional Education of Missouri Teachers in Our Sample in 1929-30

Type of Educational Service	Median	Mean	Standard Deviation
Rural	3.54	7.43	2.53
Elementary	20.42	21.03	8.03
High School	28.36	28.92	8.84
Elementary Principals	22.67	23.98	10.09
High-School Principals	29.50	30.02	10.21
Superintendents	33.95	38.30	14.10
Supervisors	30.00	26.57	10.51
Miscellaneous	21.33	21.24	7.46

High-school teachers are better trained professionally than are the elementary teachers. Three-fourths of the high-school teachers have had more than 24 hours of professional training, and one-fourth more than 32.5 hours. The median number of semester hours for this group is about 28.4 hours. This amount of training is somewhat above standards for professional requirements set by state teachers colleges and the University of Missouri for graduation with the degree of Bachelor of Science in Education.

Elementary and secondary-school principals have slightly more professional training than do elementary teachers and high-school teachers, respectively. However, the additional professional training, amounting to 2.25 hours for elementary principals, and 1.14 hours for high-school principals, is so small that it does not necessarily indicate much additional professional preparation for the work of the principalship.

It is significant that the typical Missouri superintendent has 33.9 hours of professional credit. One-fourth of them have less than 28.5 hours, and one-fourth have more than 46.7 hours. This fact, considered in connection with a median of 137.9 hours of college work, indicates a marked tendency towards increased preparation of the superintendent along professional lines.

After May 1, 1930, applicants for the Five-Year Elementary and Five-Year High School Certificates in Missouri will be required to present at least 120 Semester hours of college work, of which amount 24 must be in professional Education courses.[29] The Missouri State Department of Education is able to set this requirement because teachers are well trained professionally, as is indicated by the fact that the median amount of professional credit is 28.36 hours. This requirement is considerably above the legal requirement in practically all other states.[30] This condition, however, does not prevent many teachers from having but little professional training.

29. *Rules and Regulations of the State Department of Education Governing the Issuance and Renewal of Certificates to Teach in the Public Schools of Missouri.* (As of May, 1930. Unpublished.)

30. "State Requirements for High School Teachers," *School Review*, XXXIV, 1926, p. 295.

Correlation Between Academic and Professional Training

As stated before, the total number of hours of college training is conditioned to some extent by the number of hours of professional training; that is, the number of hours of professional work taken will always increase the total number of hours. The relationship between these two factors should, therefore, show some degree of correlation.

The coefficients of correlation between the number of hours of professional credit and the total number of hours for rural, elementary, and high-school teachers are shown in Table X.

Attention is at once focused on the correlation for rural teachers, because of its relatively large amount. It may be thought that this coefficient is in error until one studies the situation with regard to certification of rural teachers. Many of these teachers hold types of certificates which are obtained by

Table X

Correlation between Total Number of Hours of College Work and Number of Hours in Professional Education Courses

Type of Educational Service	r	P. E.
Rural	0.863	.006
Elementary	0.441	.016
High School	0.425	.018
Elementary Principals	0.399	.056
High-School Principals	0.487	.032
Superintendents	0.682	.022
Supervisors	0.702	.063
Miscellaneous	0.652	.097

taking certain amounts of training, much of which is in specified courses. A coefficient of correlation like the one referred to merely indicates that, in general, rural teachers with fairly large amounts of academic training are more likely to have some more professional training than the other types of teachers have.

Tenure of Teachers in Missouri

The following section of this study will attempt to show the tenure of Missouri teachers as measured by the number of years spent in their present and previous positions.

Tenure is measured in terms of years, and has been calculated to show the conditions at the end of the school year 1929-30. This plan makes it possible to count the year 1929-30 as one year of tenure.

One of the first conditions to be considered is the fact that 52.7 per cent of the rural, 35.3 per cent of the elementary, and 29.4 per cent of the high-school teachers have held no positions other than those in which they are now employed. Moreover, it may be added that of these persons who have held no positions other than those they now hold, 57.9 per cent of the rural, 31 per cent of the elementary, and 39.4 per cent of the high-school teachers are

serving their first year in those positions. The percentage of all rural, elementary, and high-school teachers serving in their present positions for the first time amounts to 66.1 per cent, 37.7 per cent, and 37.9 per cent respectively.

Table XI shows the central tendencies and the variability of these distributions. The median number of years served by rural, elementary, and high-school teachers in their present positions are 1.26, 2.15, and 2.10 years respectively. This fact clearly indicates that Missouri teachers have not taught long in the positions which they now hold. The average time spent in a previous position is even shorter, since the median number of years spent in any such positions by rural, elementary, and high-school teachers amounts to only 0.45, 0.95, and 1.14 years respectively. It is to be noted that even though these central tendencies are low, in almost every case the range is large, and in several cases it extends from 0 to as much as 50 years.

TABLE XI

NUMBER OF YEARS MISSOURI TEACHERS HAVE SERVED IN PRESENT AND A PREVIOUS POSITION (a)

Type of Educational Service	Number of years in Present Position			Number of years in a Previous Position		
	Median	Mean	Standard Deviation	Median	Mean	Standard Deviation
Rural	1.26	1.67	1.76	0.45	0.79	1.13
Elementary	2.15	3.60	4.46	0.95	1.34	1.81
High School	2.10	3.14	2.97	1.14	1.57	1.82
Elementary Principals	2.95	5.80	6.95	1.49	2.93	3.86
High-School Principals	1.79	2.99	3.70	1.29	1.82	1.81
Superintendents	2.27	3.42	3.48	1.91	2.36	1.87
Supervisors	2.50	4.14	4.65	0.94	2.22	3.90
Miscellaneous	2.25	3.00	2.29	1.00	1.11	0.85

(a) The class intervals on which these measures were computed extended from 0.5 to 1.49; 1.5 to 2.49; etc.

The situation for principals and superintendents is slightly better. Elementary principals average 2.9 years in their present positions; high-school principals, 1.8 years; and superintendents, 2.3 years. The number of years spent in previous positions by rural, elementary, and high-school teachers are 1.49, 1.3, and 1.9 years respectively.

On the basis of these data, we may conclude that the average rural teacher has served in his present position about 1¼ years, and the typical elementary and high-school teacher approximately 2 years. On the average, they have spent somewhat less than a year in previous positions.

Is there any relation between tenure in present position and tenure, if any, in the last previous position? In other words, do persons with long tenure in previous positions tend to teach for several years in a new position to which they come? A glance at Table XII indicates quite clearly that there is no evidence pointing toward an affirmative answer. On the other hand, it is evident that there is almost no relation at all between these two factors.

The correlations, varying between 0.027 for the miscellaneous group to 0.29 for elementary principals, with a probable error which in each case is fairly large in comparison with the correlation, would warrant no conclusion of any significant relationship. It seems safe, therefore, to assume that the fact that a teacher serves fairly long in one position gives little, if any, indication that he will serve long in his next position.

TABLE XII

CORRELATION BETWEEN NUMBER OF YEARS IN PRESENT AND A PREVIOUS POSITION FOR MISSOURI TEACHERS

Types of Educational Service	r	P. E.
Rural	0.114	.014
Elementary	0.049	.019
High School	0.121	.021
Elementary Principals	0.292	.055
High-School Principals	0.082	.047
Superintendents	0.129	.042
Supervisors	0.079	.106
Miscellaneous	0.027	.151

EXPERIENCE OF TEACHERS IN MISSOURI

A problem closely related to tenure is length of teaching experience. Experience may be defined as the number of years which teachers have taught, and consequently is the sum of all tenures.

In studying the problem of length of teaching experience, one of the first things to be noted is the extremely wide range found in the experience distributions. Table XIII shows that the experience of teachers varies from 1 to 51 years. However, the wide range and long periods of time devoted to teaching by some teachers is no indication of the length of experience for the typical Missouri teacher.

It is interesting to note that, although the range is wide, only 7.1 per cent of the rural teachers have more than 10 years of experience, and that only 1.7 per cent of them have served for over 20 years. The situation for the elementary teachers shows a tendency toward longer periods of service, since 19 per cent of the teachers have served more than 10 years, and 3.8 per cent more than 20 years. Approximately 24 per cent of the high-school teachers have served for 10 years, and 3 per cent for over 20 years.

In more or less direct contrast to the wide range is the relatively short experience revealed by a study of the central tendencies. The typical rural teachers have taught, including the present year, only 2.8 years. One-fourth of the rural teachers have taught less than 1.5 years, and only 25 per cent as much as 4.9 years. This truly indicates an extremely inexperienced group of rural teachers, and it is unfortunate that about 34 per cent of the teachers in Missouri are of this type. A more complete discussion of the group of inexperienced Missouri teachers will be given in Chapter V.

Table XIII
Experience of Missouri Teachers in Our Sample in 1929-30

Type of Educational Service	Median	Mean	Standard Deviation
Rural	2.82	4.19	4.62
Elementary	5.19	7.13	6.53
High School	5.89	7.37	5.86
Elementary Principals	11.08	12.82	9.45
High-School Principals	6.75	8.52	6.86
Superintendents	10.44	11.52	7.00
Supervisors	5.75	7.17	5.85
Miscellaneous	7.00	8.05	8.12

Note: 1929-30 is counted as one year of teaching experience.

Elementary and high-school teachers are more experienced than are rural teachers, since they have taught on the average about 5.2 and 5.9 years respectively. One-fourth of the elementary and high-school teachers have taught less than 2.8 years and 3 years respectively, whereas one-fourth have taught more than 8.9 and 10.1 years respectively. These teachers have been in the teaching profession for a longer period of time than the rural teachers, but since their tenure is short, there must be a large turnover and moving from position to position from year to year.

Elementary principals appear to have both longer tenure and more experience than have classroom teachers. This fact is indicated by the average experience of the group, which amounts to approximately 11 years. The median amount of experience for the high-school principals is about 6.8 years, and for Missouri superintendents it approximates 10.4 years.

Annual Salary of Teachers in Missouri

The annual salary received by Missouri teachers is another factor to be considered in a discussion of the status of the teaching force. In treating this topic, the following questions are considered:

1. What is the average annual salary paid to the various types of teachers in Missouri?
2. How do the salaries paid in the various teachers college districts compare?
3. How do the salaries paid teachers in Missouri compare with the salaries paid teachers in other states?
4. What relationship, if any, exists between salary and experience, and between salary and total number of semester hours?

The median annual salaries for Missouri teachers were computed separately for the various teachers college districts, and the totals furnish the basis for Table XIV.

It is significant that the salaries for certain types of educational service are so low as they are. The median salary paid rural teachers amounts to

but $620.92 per year, whereas the elementary teachers on the average receive $819.28, and high-school teachers $1221.36 a year.

TABLE XIV

ANNUAL SALARIES PAID TO MISSOURI TEACHERS IN OUR SAMPLE IN 1929-30 BY TYPES OF EDUCATIONAL SERVICE

Types of Educational Service	Median	Mean	Standard Deviation	Range
Rural	$620.92	$639.49	$130.45	$200–1300
Elementary	819.28	826.49	164.31	350–2000
High School	1221.36	1281.85	365.66	400–3100
Elementary Principals	1051.80	1076.70	304.39	400–2100
High-School Principals	1247.40	1345.20	414.19	600–3100
Superintendents	1850.00	1947.20	676.64	900–4900
Supervisors	1311.11	1375.00	419.06	700–2800
Miscellaneous	1083.33	1092.85	369.44	500–1900

The original data show ranges of considerable magnitude in the salary distributions. These ranges vary from $200 to $1,300 for rural teachers, $350 to $2,000 for elementary teachers, $400 to $3,100 for high-school teachers, to $900 to $4,900 for superintendents. However, even though the ranges of the salary distributions are extreme, the salaries paid rural and elementary teachers are closely concentrated about the central tendency. The standard deviations for these groups are but $130 and $164, respectively. The foregoing statement, however, does not hold true for high-school teachers, elementary principals, high-school principals, and superintendents, in which cases the standard deviations vary from $304 for elementary principals to as high as $676 for superintendents. This condition, however, may in part be expected in that the range is much larger for these groups. In other words, persons teaching in the elementary or rural schools are likely to receive salaries close to the average of the two groups, whereas persons in other types of teaching positions are likely to vary considerably from the central tendency of their respective groups.

It is also quite noticeable that in every case the mean salary exceeds the median salary. This condition was noted also in connection with a discussion of age. In both cases the condition is caused primarily by a great concentration of the scores around the central tendency at the low end of the scale, followed by a gradual decrease in the number of scores along a wide distribution. It is these extreme cases which raise the mean values. For these reasons the median is thought to represent better the true status of the typical Missouri teacher.

The salaries paid to rural, elementary, and high-school teachers of the various teachers college districts are shown in Table XV. These data relating to rural teachers seem to indicate that the teachers in the southwest district receive the lowest salary, the teachers in the southeast district the next lowest, with teachers of northeast, central, and northwest Missouri receiving more in the order in which they are named.

The elementary teachers of southwest Missouri receive the lowest salary, the teachers of northeast Missouri the next lowest, and those in the northwest,

TABLE XV

ANNUAL SALARY PAID TO TEACHERS IN MISSOURI IN 1929-30 ACCORDING TO TEACHERS COLLEGE DISTRICTS

Teachers College District	Rural			Elementary			High School		
	Median	Mean	S. D.	Median	Mean	S. D.	Median	Mean	S. D.
Cape Girardeau	$622.56	$622.40	$117.42	$871.71	$893.05	$165.43	$1239.47	$1272.65	$292.34
Kirksville	659.04	697.55	156.53	806.03	779.00	137.98	1231.08	1250.25	317.52
Maryville	623.00	636.88	114.87	825.00	823.15	112.86	1213.64	1294.41	350.75
Springfield	585.28	571.45	89.99	694.08	703.30	97.56	1095.83	1254.70	460.49
Warrensburg	648.33	691.60	162.05	904.17	928.75	201.05	1279.41	1342.90	360.45
Totals	620.92	639.49	130.45	819.28	826.49	164.31	1221.36	1281.85	365.66

southeast, and central Missouri districts receive more in the order named. The high-school teachers in southwest Missouri are paid the least, and the teachers of central Missouri are paid the most, with the teachers of northwest, northeast, and southeast Missouri holding the intermediate positions in the order in which they are named.

Merely to note the salaries paid teachers is not enough to obtain a true picture of the economic status of the typical Missouri teacher. Whether salaries are high or low depends largely on a relative point of view. If the salaries paid teachers in Missouri are considerably higher than the average for other states, salaries in Missouri are relatively high. If such salaries fall below the general average, they are relatively low.

Salaries, of course, may appear low from the point of view that takes into consideration the compensation in other professions and walks of life. Published data show that salaries of teachers in general are low, and that many other trades and professions furnish opportunities for much more economic advancement than does teaching.[31]

But even if it be granted that salaries for all teachers are relatively low, how does the salary of the typical Missouri teacher compare with this low average? The article cited above indicates that in salaries paid teachers Missouri ranks twenty-fourth among the 48 states. Hence, if salaries of teachers in general are low, the salaries of Missouri teachers also are low.

In general, the salary paid teachers probably bears some relation to their training and experience. The extent of these relationships is shown in Table XVI.

It is to be noted, that the coefficients of correlation for the various groups, both between salary and experience and between salary and the number of

31. "Teachers' Salary Trends and Buying Power," *Journal of the National Education Association*, Vol. 18, April, 1920, p. 120.

hours of credit, are all comparatively low. The coefficients vary from 0.17 to 0.45 for salary and experience, and from 0.35 to 0.65 for salary and number of hours. None of these, excepting perhaps the one of 0.65, which is based on relatively few cases, is very significant in showing relationships of any size.

TABLE XVI

CORRELATION BETWEEN SALARY AND EXPERIENCE AND BETWEEN SALARY AND TOTAL NUMBER OF HOURS OF TRAINING FOR MISSOURI TEACHERS

Types of Educational Service	Salary and Experience		Salary and Number Hours of Training	
	r	P. E.	r	P. E.
Rural	0.26	.01	0.50	.01
Elementary	0.32	.02	0.44	.02
High School	0.17	.03	0.41	.02
Elementary Principals	0.45	.05	0.43	.05
High-School Principals	0.34	.04	0.44	.04
Superintendents	0.44	.04	0.53	.03
Supervisors	0.37	.09	0.35	.10
Miscellaneous	0.38	.13	0.65	.09

The probable errors, however, are relatively small, and all of the coefficients of correlation are more than three times their probable errors. This fact indicates the existence of a real positive relationship, even though not large.

In general, we may conclude that the correlations between salary and experience are lower than are the correlations between salary and total number of hours. It may be significant that the relationship is the lowest for high-school teachers in both sets of correlations. It thus appears that the salary paid these individuals may perhaps be determined to a greater extent by factors other than experience and training than in the case of elementary and rural teachers.

CERTIFICATES HELD BY TEACHERS IN MISSOURI

A study of certification for Missouri teachers is a complex problem. An exhaustive study is almost impossible, except with ample time and adequate financial assistance, neither of which was available in the case of this study. The following discussion seeks to treat only the following questions:

1. What are the predominating types of certificates held by teachers in Missouri?
2. What proportion of the certificates used by teachers in 1929-30 were issued respectively by county authorities, by the state teachers colleges and University, and by the Missouri State Department of Education?

The teachers included in this study report a large number of types of certificates being used in 1929-30. The types of certificates reported are as follows:

I. Certificates Issued by the State Teachers Colleges and by the University of Missouri:

1. Life Certificate Based on Degree of Bachelor of Science in Education on 120 Hours
2. State Teachers College Life on 90 Hours
3. State Teachers College Life on 60 Hours
4. State Teachers College Regents on 30 Hours
5. State Teachers College Regents Re-issue

II. Certificates Issued by the Missouri State Department of Education:

1. State Life on 120 Hours
2. State Five-Year on 120 Hours
3. State Four-Year
4. State Three-Year on 60 Hours
5. State Three-Year Renewed
6. State Two-Year Elementary on 60 Hours
7. Junior College Certificates on 60 Hours
8. State One-Year Elementary on 30 Hours
9. Teacher-Training Certificates.
10. Special Subject Certificates
11. State High School Teachers Certificates on 120 Hours

III. Certificates Issued by County Superintendents:

1. County First Grade
2. County Second Grade
3. County Second Grade Renewal
4. County Third Grade
5. County Life

IV. Types Listed by Teachers, Which Are Not Valid Teaching Certificates in Missouri:

1. Out-of-State Certificates
2. Master's Degrees

The predominant types of certificates held by the rural teachers of Missouri, as shown in Table XVII, are First Grade County, the Second Grade County, and the Third Grade County Certificates, which are used by 24.5, 19.7, and 13.8 per cent of the rural teachers respectively. This fact indicates that 58 per cent of the certificates used by rural teachers are granted by county superintendents on the basis of examination. If to this 58 per cent there is added the 11 per cent using teacher-training certificates, we find that 69 per cent of the total number used by rural teachers of Missouri do not require an hour of college training for their issuance.

TABLE XVII
SUMMARY OF TYPES OF CERTIFICATES HELD BY CLASSROOM TEACHERS IN OUR SAMPLE IN MISSOURI IN 1929-30

Type of Certificate	Rural		Elementary		High School	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Third Grade	294	13.8	9	a		
Second Grade	421	19.7	44	3.0	4	a
First Grade	523	24.5	118	8.1	9	a
Second Grade Renewed	2	a				
Teacher Training	238	11.2	9	a	2	a
State One-Year	148	6.9	59	4.0	17	1.8
State Teachers College 30-Hour	148	6.9	88	6.0	5	a
State T. C. 30-Hour Reissue	5	a	2	a		
State Teachers College 60-Hour	198	9.3	555	37.9	69	7.2
State Two-Year	85	4.0	221	15.1	20	2.1
Junior College	22	1.0	89	6.1	6	a
State Three-Year	15	a	78	5.3	24	2.5
State Three-Year Renewed			1	a	1	a
State Four-Year	1	a	1	a	2	a
State Teachers College 90-Hour	4	a	35	2.4	16	1.7
State Five-Year	5	a	17	1.2	54	5.7
State High School Teachers	2	a			5	a
State Life	12	a	23	1.6	159	16.7
Special	4	a	11	a	16	a
B. S. in Education	6	a	99	6.8	523	54.9
Out of State			3	a	1	a
Master's Degree			2	a	20	2.1
County Life			1	a		
Totals	2,133		1,465		953	

a. Less than 1 per cent.

The next largest group of certificates from the standpoint of the number issued are those obtained by virtue of 30 and 60 hours of college work. There are two kinds of certificates based on 30 hours; namely, the State One-Year Elementary granted by the Missouri State Department of Education, and by the State Teachers College Regents. There are at least four types based on 60 hours; namely, the Two-Year Elementary, the State Three-Year Elementary, the State Teachers College 60-Hour Life, and the Junior College Certificates.

These two groups issued on the basis of 30 and 60 hours of college work, comprise 13.8 and 15 per cent respectively of the total number in use by the present rural teachers of Missouri.

It is unfortunate that but few rural teachers hold certificates calling for more than 60 hours of college work. The State Teachers College 90-Hour Life, the degree of Bachelor of Science in Education, and the State Life on 120 Hours are held by less than one per cent of the rural teachers.

Elementary teachers in general hold higher types of certificates than do rural teachers. Less than 12 per cent of the elementary teachers hold types requiring no college training—that is, the Third Grade, Second Grade, and First Grade County certificates. On the other hand, 10 per cent hold certifi-

cates based on 30 hours of college work, and over 65 per cent hold certificates calling for at least 60 semester hours of college training. Nearly 7 per cent hold the degree of Bachelor of Science in Education.

High-school teachers show a still greater tendency to hold advanced types of certificates. Only 1.3 per cent hold a county or teacher-training certificate, only 2.3 percent hold certificates calling for less than 30 hours of college work, and but 11.9 per cent hold certificates based on 60 hours of college work. The State Teachers College 90-Hour, the State Life on 120 Hours, and the certificate based on the degree of Bachelor of Science in Education are held by 1.7, 16.7, and 54.9 per cent of the high-school teachers respectively. Two per cent of the high-school teachers have the degree of Master of Arts or Master of Science. Hence, 75.3 per cent of the high-school teachers hold certificates requiring more than two years of college preparation.

Missouri principals hold chiefly the degree of Bachelor of Science in Education, the State Teachers College 60-Hour and the State Life on 120 Hours. Three per cent of the Principals hold the degree of Master of Arts or Master of Science. The same general situation prevails in the case of superintendents, since 60 per cent of them hold the degree of Bachelor of Science in Education, 10 per cent hold the State Life on 120 Hours, and 13 per cent have obtained the degree of Master of Arts or Master of Science.

The large number of certificates and the overlapping of the types make it difficult to arrive at any general conclusions. In the main, however, it appears safe to conclude that the typical Missouri rural teacher holds a certificate which calls for no training in college, the typical elementary teacher holds a certificate calling for 60 semester hours of college work, and the typical high-school teacher holds one calling for 120 hours of work. The principals and superintendents hold the degree of Bachelor of Science in Education, and 3 and 13 per cent of them respectively have a Master's degree.

Of the 5,186 teachers of the sample for whom we have records, 2,217 of the certificates were issued by the state teacher-training institutions, 1,508 by the State Department of Education, and 1,461 by the county superintendents.

The following conclusions regarding the types of certificates held by Missouri teachers appear significant:

1. The predominant type of certificate held by rural teachers is a county certificate; by elementary teachers, one requiring 60 semester hours of work, and by high-school teachers, the certificate based on the degree of Bachelor of Science in Education.
2. The state teachers colleges and the University of Missouri are the agencies which have supplied 42.75 per cent of all certificates in use by persons included in our sample of Missouri teachers for 1929-30.

SUMMARY AND CONCLUSIONS

The public school teachers of Missouri are mainly unmarried women, since 78.6 per cent of them are women and 81 per cent of these are single.

The typical rural teacher is a woman 22 years of age, has in all probability attended one of the Missouri state teachers colleges, has taken approximately 3.5 semester hours of professional education, and has earned a total of 22 semester hours of college credit. She has been in her present position a little over one year, has had less than three years of experience, and receives a salary of approximately $620 a year.

The typical elementary teacher is a woman 25 years of age, has in all probability attended one of the Missouri state teachers colleges, has taken 20 semester hours of professional education, and has earned a total of 75 semester hours of college credit. She has been in her present position about two years, has had five years of experience, and receives a salary of nearly $820 per year.

The typical high-school teacher is 27 years of age, has probably attended one of the Missouri state teachers colleges, has taken approximately 28 semester hours of professional education, and has earned a total of 129 semester hours of college credit. She has been in her present position about two years, has had six years of experience, and receives a salary of about $1,221 per year.

CHAPTER V

STATUS OF THE TYPICAL INEXPERIENCED MISSOURI TEACHER

In Chapter IV attention was called to the problem of the inexperienced teacher. It was stated that a comparatively large number of Missouri teachers have had no experience prior to accepting the position which they now hold.

In order to determine the characteristics of the inexperienced teachers, it became necessary to tabulate facts regarding sex, age, salary, and training for this type of teacher. This tabulation made it possible to compare the inexperienced teachers with those of the total group, in order to note any existing differences.

The inexperienced teachers in many cases have but recently been graduated from, or have been in attendance at, some teacher-training institution. At least they have but recently been granted some type of teaching certificate. Their training is of necessity the pre-service type, and any differences in amount of training found in favor of the total group would be accounted for by in-service training. Inexperienced teachers have no tenure except that since the beginning of the school year 1929-30 they have held their present positions. In other words, this group of teachers has neither tenure nor experience.

Number of Inexperienced Teachers in Missouri

Data were presented in Chapter IV pointing toward the conclusion that Missouri has at the present time a large number of inexperienced teachers. These data are set forth in Table XVIII, which shows the number and per cent of inexperienced teachers in each type of educational service.

Table XVIII

Number of Teachers in Missouri Teaching for the First Time in 1929-30

Type of Educational Service	Number in Sample Teaching for First Time in 1929-30	Number Teachers of Each Type Reporting	Per Cent Teaching for First Time in 1929-30
Rural	569	2,200	28.86
Elementary	146	1,510	9.67
High School	108	957	11.29
Elementary Principals	7	141	4.69
High-School Principals	17	248	6.85
Superintendents	5	253	1.97
Supervisors	1	36	2.77
Miscellaneous	2	21	9.52
Totals	855	5,366	15.93

The determination of the actual number of new teachers needed in the State each year has been treated in Chapter II. Here it will suffice to show the number of inexperienced teachers in the sample, and the part which they are of the total number. It is significant that over 25 per cent of the rural teachers

are teaching for the first time in 1929-30. The per cent of new teachers in the elementary and high schools is approximately 10 and 11 per cent respectively. The per cent of new administrative officers varies between 2 and 10 per cent of the total. Nearly 16 per cent of all Missouri teachers have not taught prior to the beginning of the present year. The following discussion is based on the 855 inexperienced Missouri teachers of the sample in so far as complete data were reported for each item under consideration.

Number of Inexperienced Men and Women Teachers in Missouri

The same general conclusion holds for inexperienced teachers with regard to the relation between the number of men and women teachers as did for the total group. Table XIX shows both the number and per cent of men and women teachers in the various types of educational service.

Table XIX

The Number and Per Cent of Inexperienced Men and Women in Our Sample Teaching in Missouri in 1929-30 (a)

Type of Educational Service	Women		Men	
	Number	Per Cent	Number	Per Cent
Rural	449	84.6	82	15.4
Elementary	128	92.1	11	7.9
High School	67	65.0	36	35.0
Totals	644	83.3	129	16.7

(a) The data for administrative officers and supervisors have been omitted in this and following tables, because of the small number of cases.

The one tendency which should not be overlooked is that whereas the per cent of men entering the field of rural school work is almost the same as for the total group, being but 1.4 per cent smaller, the per cent of men entering elementary and high school service is larger than for the total group by approximately 3 and 10 per cent respectively.

If one considers only the classroom teachers in Table II, in Chapter IV preceding, it will be found that only 14.6 per cent of them are men and that 85.4 per cent are women. It is noted in Table XIX, in this chapter, that 16.7 per cent of the classroom teachers are men. This tendency toward a more nearly equal number of men and women teachers is a hopeful sign, but even so the typical Missouri teacher is a woman.

Marital Status of Inexperienced Women Teachers in Missouri

The data bearing on the marital status of inexperienced teachers point toward the conclusion that in general women teachers marry after having taught for only a few years. Table XX presents the data pertaining to the marital status of the inexperienced women teachers in Missouri.

It is interesting to note the small number of women teachers who are married, for in no case do they number more than 5 per cent of the total.

The per cent of all inexperienced women teachers who are married is but 3.7 per cent. Table III of Chapter IV indicated that the per cent of married women for all teachers in the profession is 18.9 per cent.

Table XX

The Number and Per Cent of Married and Single Women Teachers in Our Sample in Missouri Teaching for the First Time in 1929-30

Type of Educational Service	Single		Married	
	Number	Per Cent	Number	Per Cent
Rural	432	96.2	17	3.8
Elementary	122	95.3	6	4.7
High School	66	98.5	1	1.5
Totals	620	96.3	24	3.7

Age of Inexperienced Teachers in Missouri

The inexperienced teachers in Missouri are younger than the average for all teachers. These data are set forth in Table XXI.

Table XXI

Ages of Inexperienced Teachers in Missouri in Our Sample in 1929-30

	Type of Educational Service		
	Rural	Elementary	High School
Q_1	18.4	20.0	21.7
Md.	19.4	20.7	22.6
Q_3	20.6	22.3	23.7
M.	19.8	21.4	23.1
S. D.	2.5	2.2	2.4
Range	16-50	18-32	18-35

It is noted that the typical inexperienced teacher in the rural schools is 19 years of age, the typical inexperienced teacher in the elementary schools 21, and the typical inexperienced teacher in the high schools 23 years of age. Since this is the case, it is apparent that the inexperienced teachers are approximately 2½ and 4 years younger than the average for all teachers in the rural, and in the elementary and high school positions, respectively. Inasmuch as the inexperienced teachers are young, it is probable that they have not had opportunity for much academic and professional training.

Schools Attended by Inexperienced Teachers in Missouri

A comparison of the types and numbers of schools attended by inexperienced teachers with the types and numbers of schools attended by all teachers proves interesting. The data which serve as the basis for making such comparisons are shown in Table XXII.

One point of immediate interest is the number and per cent of teachers who have attended one, two, and more than two schools. Whereas in the total group 80.2, 55.7, and 43.2 per cent of the rural, elementary, and high-school

TABLE XXII
NUMBER OF COLLEGES ATTENDED BY INEXPERIENCED MISSOURI TEACHERS IN OUR SAMPLE

Number of Teachers with College Training who Attended:	Rural		Elementary		High School	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Only one college	265	89.8	95	67.4	69	66.4
Two colleges	30	10.2	42	29.8	28	26.9
More than two colleges	0	0	4	2.8	7	6.7
Total number attending college	295	100.0	141	100.0	104	100.0
Number of teachers attending some college	295	53.9	141	98.6	104	99.0
Number of teachers attending no college	252	46.1	2	1.4	1	1.0
Total	547	100.0	143	100.0	105	100.0

teachers respectively attended one school, the data for the inexperienced group show that 89.8, 67.4, and 66.3 per cent of the rural, elementary, and high-school teachers respectively attended one school. In other words, the training of the inexperienced teachers is more likely to have been obtained largely in one school.

A comparison of the types of teachers according to the percentages of them attending two or more colleges, shows that the inexperienced group has moved about less frequently than has the total group. This fact is to be expected, because they are younger, have had less training, and no experience, and therefore would have had less opportunity for changing from school to school than would the older and more mature teachers have had. Thus it appears that the typical teacher is a product of but one school.

The inexperienced teacher, furthermore, is essentially the product of either a state teachers college or the University of Missouri. The data clearly indicate that the majority of rural, elementary, and high-school teachers have come from one of these state institutions. This tendency for teachers to attend one of the state teachers colleges or the University of Missouri is much more pronounced for inexperienced teachers than for teachers of the total group. In the inexperienced group, the role played by the out-of-state schools in training teachers is almost identical with that of the total group. This fact is indicated by the fact that the out-of-state schools have helped to some extent in the training of 6 per cent of the rural, 12 per cent of the elementary, and 21 per cent of the high-school teachers of Missouri.

In general, one may say that the typical Missouri teacher is the product of a single school, which, in most cases, is one of the state-supported institutions. Most of the inexperienced elementary and high-school teachers have attended college, but a quite different situation obtains with respect to the rural teachers, since 46 per cent of them have never attended college or university. These new teachers fill the vacancies occurring in the profession,

and if any great improvement is to be made in the status of the Missouri teacher, it should begin with the new teacher who, for the first time, is taking a position. As long as 46 per cent of the beginning rural teachers have no college training, we can hardly expect to advance far in raising standards for teaching in the rural schools, nor can such teachers expect to receive much better salaries for their services than they are receiving at present.

Academic and Professional Training of Inexperienced Teachers in Missouri

The statement was made at the beginning of this chapter that the training of inexperienced teachers is of the pre-service type, and that differences between the two groups in favor of the whole group could be ascribed to in-service training. It is the purpose of this section to compare both the academic and the professional training of the two groups. Table XXIII is a summary of the total amount of college work taken by inexperienced teachers.

Table XXIII

Number of Semester Hours of College Work for Inexperienced Missouri Teachers in Our Sample in 1929-30

	Type of Educational Service					
	Rural	Elementary	High School	Elementary Principals	High School Principals	Superintendents
Q_1	2.76	62.92	121.46	(a)	(a)	(a)
Median	9.40	69.38	125.88	72.50	124.59	120.00
Mean	30.43	84.11	132.58			
Q_3	19.13	76.19	124.02			
S. D.	25.48	24.38	20.85			
Range	0-135	0-145	20-182			

(a) Only the median is shown for these types of service, because of the small number of cases.

It is to be noted that the medians and means of the distributions differ considerably. This difference is probably due to the peculiar distribution of the frequencies, since nearly half of them fall in the step interval from 0 to 4.9, and but few in the step interval from 5 to 9.9. Since the range is wide and extends from 0 to 135 semester hours, the mean is displaced upward considerably by the skewness of the distribution. It is believed that the median better represents the case of the typical Missouri teacher.

It is noticed that the amount of training obtained by the inexperienced teachers is 9 hours for rural teachers, 69 hours for elementary teachers, and 126 hours for high-school teachers. It will be remembered that the data for the total group indicated training to the extent of 22, 75, and 129 hours respectively for rural, elementary, and high-school teachers. In every case the in-service teachers have the greater amount of training. This fact seems to indicate that a teacher will, during his years of service, tend to earn some college credit. The amounts of such credit earned approximates 13 hours for rural teachers,

6 hours for elementary teachers, and 3 hours for high-school teachers. The question arises as to why a smaller difference should exist for the elementary and high school groups than for the rural groups. This smaller difference is in all probability due to the fact that more or less rigid adherence is being made to certain standards for teaching in many elementary and in practically all accredited high schools. In other words, there is a tendency for beginning teachers to have about 60 hours of work for elementary teaching, and about 120 hours for high school service.

This tendency is in part due to the regulation of the State Department of Education, which requires teachers of academic subjects in junior and senior high schools of the first, second, or third class school systems to have a four-year college curriculum.[32]

The status of the inexperienced Missouri teacher with regard to the amount of professional education acquired is shown in Table XXIV. The same general conclusions follow here as for the total number of hours. In every instance, there is a difference between the amount of professional credit earned by the inexperienced teachers and by the teachers of the total group. These differences amount to about 2 hours for rural teachers, approximately 4½ hours for elementary teachers, and slightly more than 3 hours for high-school teachers.

TABLE XXIV

NUMBER OF SEMESTER HOURS OF PROFESSIONAL EDUCATION FOR INEXPERIENCED TEACHERS IN OUR SAMPLE FOR 1929-30

	Type of Educational Service					
	Rural	Elementary	High School	Elementary Principals	High School Principals	Superintendents
Q_1	0.75	13.52	20.69	(a)	(a)	(a)
Median	1.50	15.92	25.00	21.00	24.66	25.00
Q_3	5.79	20.80	28.17			
Mean	4.45	17.67	24.47			
S. D.	6.36	7.28	6.38			
Range	0-42	0-46	0-38			

(a) Only the medians are shown here, because of the small number of cases.

In this connection, it is also interesting to note the amount of relationship existing between the total amount of training and the amount of professional educational credit. Table XXV shows these coefficients of correlation.

TABLE XXV

CORRELATION BETWEEN TOTAL NUMBER HOURS OF COLLEGE WORK AND NUMBER OF HOURS IN PROFESSIONAL EDUCATION FOR INEXPERIENCED TEACHERS IN MISSOURI

Type of Educational Service	r	P. E.
Rural Teachers	0.88	.008
Elementary Teachers	0.69	.034
High-School Teachers	0.40	.056

32. *Organization and Administration of Junior and Senior High Schools*, State of Missouri, Department of Education, 1927, p. 31.

The correlations appear to differ little from those reported for the whole group, except for the group of inexperienced elementary teachers, which has a coefficient of correlation approximately 0.2 higher. It is difficult to say what such a tendency indicates, except perhaps that either the curriculum offered is becoming more standardized, or that the requirements for certain types of elementary school certificates stipulate a definite amount of professional credit, which tends to increase the degree of relationship between the number of hours in professional courses and the total number of hours.

ANNUAL SALARY FOR INEXPERIENCED TEACHERS IN MISSOURI

One of the factors contributing to the large number of inexperienced and poorly trained teachers, in the rural schools particularly, is the fact that low salaries are paid. This is true especially in the case of the new teacher, as is indicated in Table XXVI.

TABLE XXVI

ANNUAL SALARY OF INEXPERIENCED MISSOURI TEACHERS IN OUR SAMPLE IN 1929-30

	Type of Educational Service					
	Rural	Elementary	High School	Elementary Principals	High School Principals	Superintendents
Q_1	$498.68	$654.70	$942.50	(a)	(a)	(a)
Median	574.62	725.00	1116.25	$775.00	$1116.60	$1425.00
Q_3	623.28	819.20	1231.75			
Mean	565.45	739.15	1105.80			
S. D.	100.92	129.53	244.72			
Range	200-1000	400-1150	600-2450			

(a) Only the median is shown for these types of service, because of the small number of cases.

In each case, the inexperienced teachers receive a much lower average yearly salary than do the teachers of the total group. These differences are quite noticeable, and amount to $46 for rural, $94 for elementary, and $105 for high-school teachers. If it is true that the typical Missouri teacher is poorly paid for his services, this same condition also obtains to an even more marked degree for inexperienced teachers.

The degree of relationship existing between salary and training is approximately 0.46 for rural teachers, 0.58 for elementary teachers, and 0.29 for high-school teachers.

CERTIFICATES HELD BY INEXPERIENCED TEACHERS IN MISSOURI

The inexperienced rural teachers of Missouri are teaching mainly with the second and third class county certificates, as indicated by the fact that 49 per cent of the inexperienced group hold this type of certificate. If to this per cent are added the First Grade Certificates and the comparatively large number of Teacher-Training Certificates, we find that 76 per cent of the rural teachers hold certificates calling for little or no college training. This fact

substantiates a previous conclusion concerning the small amount of college training received by inexperienced rural teachers.

Practically none of the inexperienced elementary and high-school teachers holds a county certificate. The elementary teachers hold chiefly the State Two-Year Elementary and the State Teachers College 60-Hour Life. The high-school teachers hold mainly the degree of Bachelor of Science in Education.

SUMMARY AND CONCLUSIONS

The inexperienced public school teachers in Missouri constitute approximately 16 per cent of the total number of teachers in the State outside of St. Louis and Kansas City. These teachers are more likely to be unmarried women, and somewhat more likely to be men than is true for teachers in general throughout the State.

The teachers of the inexperienced group are younger, have had less academic and professional training, receive less salary, and hold lower types of certificates than do the teachers of the total group.

The beginning rural teachers are poorly trained, and 46 per cent of them report no attendance at college. However, if they did attend college, they probably attended one of the state-supported teacher-training institutions.

So long as new and inexperienced teachers can enter the service even though poorly qualified for their work, and so long as such teachers are legally certificated and are free to underbid adequately prepared teachers, just so long will the status of the Missouri teachers be such that many highly desirable, capable persons will stay out of the profession, and numbers of successful teachers will leave it for fields where adequate pecuniary remuneration is more available and where the opportunities for advancement are more prevalent.

CHAPTER VI

TEACHER DEMAND AS RELATED TO TEACHER SUPPLY IN MISSOURI

Chapters II and III sought to show the nature and extent of the demand and supply for teachers in Missouri. It is the purpose of this chapter to show certain relations existing between these two factors, and to present some evidence on the question: Is there an oversupply of well-trained teachers for the Missouri public schools?

Nature and Extent of Demand and Supply

Demand has been defined as the number of inexperienced teachers needed each year to fill the positions in the State. Supply has been defined in two ways. The first of these treats supply as the number of persons legally qualified to teach in the public schools of Missouri in 1929-30 by virtue of having been issued valid teachers' certificates during the year 1928-29. The second type of supply may be termed trained-teacher supply. Supply of this nature is determined by finding the number of inexperienced teachers in the State who meet certain proposed minimum standards.

It was shown in Chapter II that the total demand outside the two large cities amounts to about 3,164 new teachers annually. The supply of teachers comes from three sources; those persons certificated by the State Department of Education, those certificated by the higher educational teacher-training institutions, and those certificated by the county superintendents. The numbers of certificates issued by these three agencies amount yearly to 3,586, to 2,572 and to 3,278 respectively.

Comparison of Demand and Supply

Does the supply exceed the demand if we consider the supply as being those certificated each year? The number of persons issued teaching certificates from the higher educational institutions will almost meet the demand, to say nothing of the supply coming from the State Department of Education certification based on at least 60 hours of college work.

From these data it may be seen that the persons obtaining certificates on the basis of 120 hours could fill all of the positions held by the inexperienced teachers of the high schools and elementary schools, and of the inexperienced principals and superintendents. The number of certificates issued on 90, 60, and 30 hours of work is more than sufficient to meet the demand for new teachers in the rural schools. Supply, taken from this point of view, exceeds the demand.

On the other hand, what would be the demand if certain minimum standards of training for teachers were put into effect? Table XXVII shows the per cent of all Missouri teachers having certain amounts of college training.

It is apparent that 80.8 per cent of all rural teachers, 9.7 per cent of all elementary teachers, and 15.9 per cent of the high-school teachers do not meet the proposed standards of 60 semester hours of college work for the rural and elementary teachers, and of 120 hours for high-school teachers. Assuming for the present that all high-school principals, superintendents, and supervisors should meet the standards for high-school teachers, and that the

TABLE XXVII

THE PER CENT OF ALL TEACHERS IN MISSOURI HAVING LESS THAN CERTAIN AMOUNTS OF COLLEGE TRAINING

Type of Educational Service	Per Cent Having Fewer Hours Than				
	30	60	90	120	150
Rural	56.4	80.8	97.1	98.8	100.0
Elementary teachers	2.8	9.7	71.6	91.3	100.0
High-School teachers	----	0.6	6.9	15.9	90.8
Elementary principals	3.1	11.8	63.0	78.7	97.7
High-School principals	----	----	6.6	18.2	91.3
Superintendents	----	----	0.8	9.1	78.2
Supervisors	----	8.1	24.3	35.1	86.4
Miscellaneous	----	16.6	49.8	72.2	100.0

Table reads: 56.4 per cent of the rural teachers have less than 30 hours of college work, 80.8 per cent have less than 60 hours; 97.1 per cent have less than 90 hours, etc.

elementary principals and the few in the miscellaneous group should meet the 60-hour standard, we find that the demand figures would be greatly increased. Table XXVIII shows the number of persons now teaching who would be prohibited from teaching should these standards be put into effect at the present time.

It is seen that the number of teachers who would not be qualified to teach under these proposed standards would amount to 8,166, or 41.7 per

TABLE XXVIII

THE NUMBER OF TEACHERS IN MISSOURI OUTSIDE OF ST. LOUIS AND KANSAS CITY NOT MEETING THE PROPOSED STANDARDS

Type of Educational Service	Per Cent not Meeting Proposed Standards	Number Teachers in State Outside of St. Louis and Kansas City in 1928-29	Number Persons in State Outside of St. Louis and Kansas City not Meeting Standards
Rural	80.8	8,450	6,825
Elementary (a)	9.9	6,834	679
High School (b)	16.7	2,619	437
H. S. Principals	18.2	796	145
Superintendents	9.1	881	80
Totals		19,580	8,166

(a) Includes elementary-school principals and miscellaneous group.
(b) Includes supervisors.

Table reads: 80.8 per cent of the rural teachers do not meet the proposed standards of 60 semester hours of work for elementary and rural teachers. This means that 6,825 rural teachers in the State do not meet these standards, etc.

cent, of the total. This amount is an estimate of the number of trained teachers needed at the present time in order to place adequately prepared teachers, as defined under the proposed standards, in all Missouri schools.

The data show that there are needed in Missouri each year approximately 3,164 new and inexperienced teachers. At the same time there were 9,436 teachers certificated during the immediately preceding year. The difference between the number of teachers certificated and the number of new teachers needed is 6,272.

On the other hand, if the proposed standard of 60 hours of college training for rural and elementary teachers, and of 120 hours of college training for high-school teachers were put into effect, the number of new teachers needed would be increased to 8,166. However, this number of trained and newly certificated teachers is not available in Missouri at the present time.

CHAPTER VII

SUMMARY AND RECOMMENDATIONS

Summary of Data

On the basis of the data shown in this study, the typical rural teacher in Missouri in 1929-30 is a single woman 22 years of age. The probabilities are four to five that she has attended some college, and the chances are three to four that it was one of the state-supported teacher-training institutions. She has had 22 hours of college training, of which amount 3.5 hours are in professional education subjects. She has taught in her present position 1.3 years, including 1929-30, and in all probability held a previous position for an even shorter period of time. She has had 2.8 years of experience, receives a salary of $621 a year, and most likely holds a county certificate.

The typical elementary teacher of Missouri in 1929-30 is a single woman 25 years of age. Almost without exception she has attended some college, and usually this college is one of the state-supported teacher-training institutions. She has had 75 hours of college work, of which amount 20 hours are in professional education courses. She has taught in her present position two years, including 1929-30, and on the average has taught nearly a year in a previous position. She has had five years of experience, and receives an annual salary of $819 a year. She probably holds a Teachers College 60-Hour Diploma.

The typical high-school teacher is a single woman 27 years of age, who has attended school at one of the state teacher-training institutions. She has a total of 129 semester hours of credit, of which amount 28 hours are in professional education subjects. She has taught two years in her present position including 1929-30, and has taught one year in a previous position. Her total experience amounts to six years, and her salary is $1221 a year. She probably holds the degree of Bachelor of Science in Education.

The typical inexperienced rural teacher is a single woman 19 years of age. The chances are about even that she has attended college; and, if she did, the school was in all probability one of the state-supported teacher-training institutions. She has had nine hours of college credit, of which amount 1.5 hours are in professional education. Her salary is $575 per year, and she most likely holds a Third-Grade County or High-School Teacher-Training Certificate.

The typical inexperienced elementary-school teacher is a single woman 21 years of age. She has probably attended one of the state teacher-training institutions, where she has earned 69 hours of credit, of which amount 16 are in professional education. Her salary is $725, and she probably holds a State Two-Year Elementary or a State Teachers College 60-Hour Life Certificate.

The typical inexperienced high-school teacher is a single woman, 23 years of age, who has attended a state teacher-training institution where she obtained the degree of Bachelor of Science in Education. She has 126 hours of college work, of which amount 25 hours are in professional education courses. Her salary is $1116 a year.

The data collected for our sample show a need for 855 new teachers in 1929-30. These data were thought to be representative, and the per cent which they were of the sample was then applied to the total number in the State. This procedure gave an estimate of the number of new teachers employed in the State for the year 1929-30, which number was found to be 3,164.

The supply of teachers as measured by the number certificated each year indicates that there is an oversupply under the present certification regulations. If, however, a standard of 60 hours of preparation for rural and elementary teachers and of 120 hours for high-school teachers were adopted, the supply would be decreased and the demand increased to such an extent that the supply of trained teachers would not be sufficient to meet the demand for them. This conclusion bears out the statement made in Chapter II relative to the nature of supply and demand. If our definition of a teacher is such that his training may be low, there will be an oversupply of teachers. If our definition of a teacher is such that more training is necessary, the supply will decrease and the demand increase as the standards become more stringent. At the present time there is an oversupply of teachers, but not an oversupply of teachers with a minimum of 60 hours of preparation for elementary and rural service.

FURTHER INVESTIGATION NEEDED

It was stated in Chapter I that no definite answer concerning supply and demand was to be proposed in this study. The primary purpose of investigation was to show some of the factors affecting the supply and demand for trained teachers in the State of Missouri.

It is believed that the present study has analyzed the status of the typical Missouri teacher in service, and of the inexperienced teacher, who is just entering the profession, with respect to sex, age, training, experience, tenure, types of schools attended, salary, and types of certificates held. It is believed that the study shows that there is an oversupply of poorly trained teachers, but that the application of reasonable standards of training to the teachers of the inexperienced and of the total groups would change this oversupply to an increased demand for more well-trained teachers.

There is now a need for further investigation and other studies relating to supply and demand in Missouri from the institutional point of view.

We need to know how many inexperienced teachers are certificated each year by the teacher-training institutions of the State and by the State Depart-

ment of Education. Such information would give us the actual and potential supply of well-trained teachers in the State.

We need to know what becomes of the product of the Missouri schools. How many of them teach in the rural, elementary, and high schools of this and other states? How many of them teach for a period of years, and then leave the profession? If they leave, why do they do so?

There is a need for studying the question of supply and demand from the standpoint of subject demand and subject supply. It was noted in Chapter I that there may be in a given state an oversupply of teachers of English and an undersupply of teachers in mathematics. Any definite teacher-training program would, in part, be based upon such information as the type indicated.

An attempt should be made to study the supply and demand of teachers in private schools. No attempt was made in this study to consider this matter from the demand standpoint. This problem should be considered, since it is a vital one in many states.

Studies should be carried on that would indicate the types of curricula which should be offered by the teacher-training schools of the State.

We need now, perhaps more than anything else, an adequate system of teacher-accounting records. Every study which has been made of the question of supply and demand of teachers has been handicapped by the lack of accurate and adequate records. Perhaps no further studies of supply and demand should be attempted until the basic records needed are established as a matter of school routine. To determine the kinds of records which should be kept by the colleges and the State Department of Education is a problem furnishing ample opportunity for an investigation of great value.

Recommendations

Inasmuch as public education in Missouri is a state function, it becomes the duty of the State to provide for its schools an adequate supply of well-trained teachers. The training of teachers is a large enterprise and should be conducted on sound business principles. It becomes the duty of those in charge of the teacher-training work to know the nature and extent of the demand, the nature and training of the available supply, and to keep these two factors in an approximate parity. In other words, there should be inaugurated for Missouri a definite and comprehensive teacher-training program.

Therefore, the following suggestions are offered:

1. That the State of Missouri set 60 semester hours of college work as a minimum standard of academic preparation for all teachers in rural and elementary schools. The advance should be made slowly, however, by first requiring all new teachers to meet the requirement, and by allowing teachers

in service a few years in which to increase their training to this minimum standard.

2. That the county certificates, high-school training classes, and the teachers college one-year course for rural teachers be discontinued. It is suggested that the high-school training classes be eliminated with the graduation of the present enrollment, and that the teachers college one-year course be discontinued at the date when all new teachers in the State would be required to meet the standards proposed in the first suggestion.
3. That the teacher-training institutions formulate definite curricula for prospective rural, elementary, and high-school teachers.
4. That the authority controlling the issuance of certificates to teach in the public schools of Missouri be more centralized than it is at present, and that the number of various types of certificates issued be reduced to a comparatively few "specific types."
5. That adequate teacher-accounting records be put into operation by the State Department of Education and by the state institutions for the training of teachers.
6. That provision be made for a well planned, adequately financed, comprehensive, and continuous study of the problem of teacher supply and demand in Missouri.

Work of this nature must be a continuous process. It will never be completed, because as conditions change, the factors regulating supply and demand also change. But as the problem is studied by means of adequate records, trends and averages will be established which will aid in the establishment and administration of a definite program for the training of the public school teachers of Missouri.

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